



Vendor: Cisco

Exam Code: 400-101

Exam Name: CCIE Routing and Switching Written Exam,
v5.1

Version: 16.093

QUESTION 1

Which two options are reasons for TCP starvation? (Choose two.)

- A. The use of tail drop
- B. The use of WRED
- C. Mixing TCP and UDP traffic in the same traffic class
- D. The use of TCP congestion control

Answer: CD

QUESTION 2

Which type of port would have root guard enabled on it?

- A. A root port
- B. An alternate port
- C. A blocked port
- D. A designated port

Answer: D

QUESTION 3

Refer to the exhibit. Which action will solve the error state of this interface when connecting a host behind a Cisco IP phone?

```
DOT1X-SP-5-SECURITY_VIOLATION: Security violation on interface GigabitEthernet4/8,  
New MAC address 0080.ad00.c2e4 is seen on the interface in Single host mode  
%PM-SP-4-ERR_DISABLE: security-violation error detected on Gi4/8, putting Gi4/8 in  
err-disable state
```

- A. Configure dot1x-port control auto on this interface
- B. Enable errdisable recovery for security violation errors
- C. Enable port security on this interface
- D. Configure multidomain authentication on this interface

Answer: D

QUESTION 4

Refer to the exhibit. While troubleshooting high CPU utilization of a Cisco Catalyst 4500 Series Switch, you notice the error message that is shown in the exhibit in the log file. What can be the cause of this issue, and how can it be prevented?

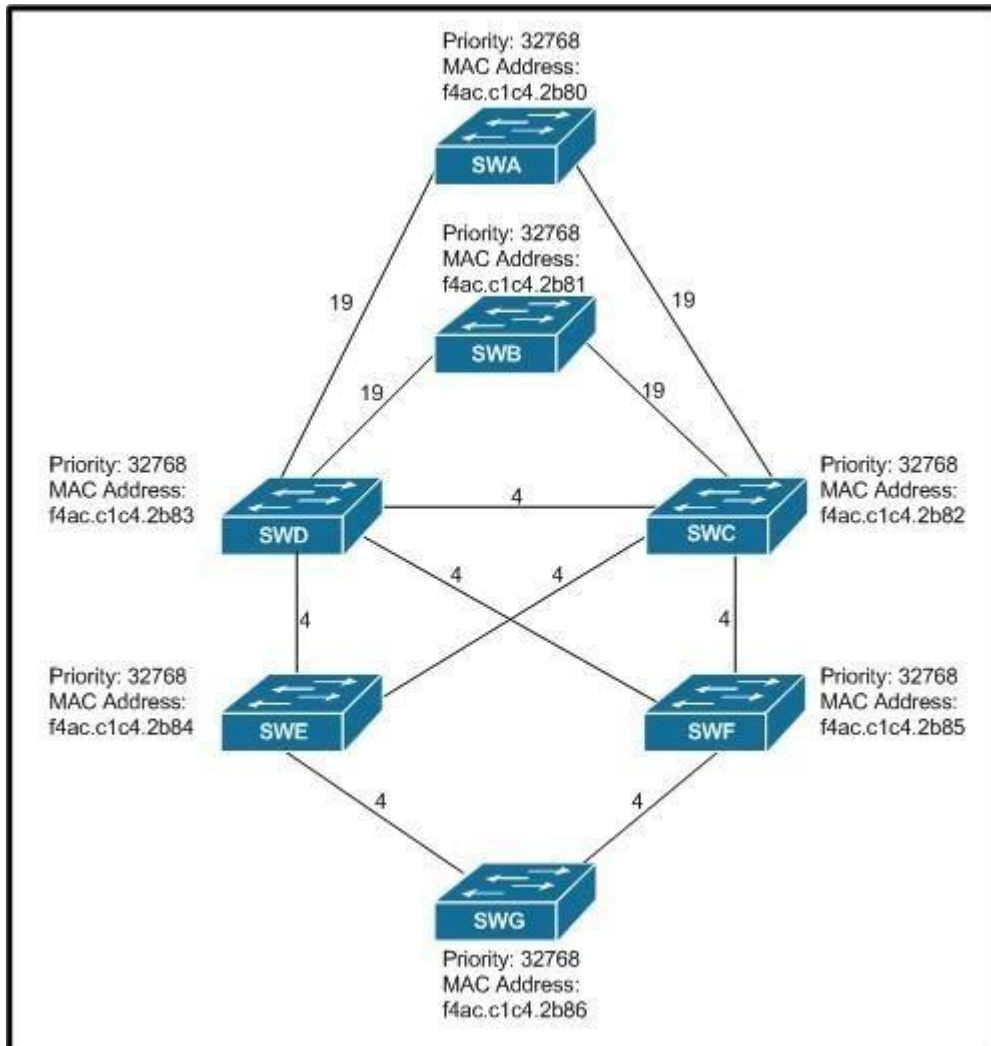
```
%C4K_L3HWFORWARDING-2-FWDCAMFULL: L3 routing table is full. Switching to software forwarding
```

- A. The hardware routing table is full. Redistribute from BGP into IGP.
- B. The software routing table is full. Redistribute from BGP into IGP.
- C. The hardware routing table is full. Reduce the number of routes in the routing table.
- D. The software routing table is full. Reduce the number of routes in the routing table.

Answer: C

QUESTION 5

Refer to the exhibit. All switches have default bridge priorities, and originate BPDUs with MAC addresses as indicated. The numbers shown are STP link metrics. Which two ports are forwarding traffic after STP converges? (Choose two.)



- A. The port connecting switch SWD with switch SWE
- B. The port connecting switch SWG with switch SWF
- C. The port connecting switch SWC with switch SWE
- D. The port connecting switch SWB with switch SWC

Answer: CD

QUESTION 6

Refer to the exhibit. While troubleshooting high CPU utilization on one of your Cisco Catalyst switches, you find that the issue is due to excessive flooding that is caused by STP. What can you do to prevent this issue from happening again?

```
switch#show spanning-tree detail

MST0 is executing the mstp compatible Spanning Tree protocol
Bridge Identifier has priority 32768, sysid 0, address f4ac.c1c4.2b80
Configured hello time 2, max age 20, forward delay 15, transmit hold-count 6
Current root has priority 24576, address 0019.07aa.9ac0
Root port is 56 (Port-channel1), cost of root path is 0
Topology change flag not set, detected flag not set
Number of topology changes 296 last change occurred 00:01:17 ago
      from GigabitEthernet0/15
```

- A. Disable STP completely on the switch.
- B. Change the STP version to RSTP.
- C. Configure PortFast on port-channel 1.
- D. Configure UplinkFast on the switch.
- E. Configure PortFast on interface Gi0/15.

Answer: E

QUESTION 7

Refer to the exhibit. Which three statements about the output are true? (Choose three.)

```
Switch# show ip igmp snooping mrouter
Vlan      ports
----      -
  10      Gi2/0/1(dynamic), Router
  20      Gi2/0/1(dynamic), Router
```

- A. An mrouter port can be learned by receiving a PIM hello packet from a multicast router.
- B. This switch is configured as a multicast router.
- C. Gi2/0/1 is a trunk link that connects to a multicast router.
- D. An mrouter port is learned when a multicast data stream is received on that port from a multicast router.
- E. This switch is not configured as a multicast router. It is configured only for IGMP snooping.
- F. IGMP reports are received only on Gi2/0/1 and are never transmitted out Gi2/0/1 for VLANs 10 and 20.

Answer: ABC

QUESTION 8

Refer to the exhibit. If a port is configured as shown and receives an untagged frame, of which VLAN will the untagged frame be a member?


```
Switch#show int fastEthernet0/1 switchport
Name: Fa0/1
Switchport: Enabled
Administrative Mode: dynamic auto
Operational Mode: static access
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: native
Negotiation of Trunking: On
Access Mode VLAN: 2 (VLAN0002)
Trunking Native Mode VLAN: 3 (VLAN0003)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Trunking VLANs Enabled: ALL
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

Protected: false
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
Appliance trust: none
```

- A. VLAN 1
- B. VLAN 2
- C. VLAN 3
- D. VLAN 4

Answer: B

QUESTION 9

Refer to the exhibit. Which statement describes the effect on the network if FastEthernet0/1 goes down temporarily?

```
Switch#show interfaces switchport backup detail

Switch Backup Interface Pairs:

Active Interface      Backup Interface      State
-----
FastEthernet0/1      FastEthernet0/2      Active Up/Backup Standby

Interface Pair   : Fa0/1, Fa0/2
Preemption Mode  : off
Bandwidth       : 100000 Kbit (Fa0/1), 10000 Kbit (Fa0/2)
Mac Address Move Update Vlan : auto
```

- A. FastEthernet0/2 forwards traffic only until FastEthernet0/1 comes back up.
- B. FastEthernet0/2 stops forwarding traffic until FastEthernet0/1 comes back up.
- C. FastEthernet0/2 forwards traffic indefinitely.
- D. FastEthernet0/1 goes into standby.

Answer: C

QUESTION 10

Refer to the exhibit. Routers R1, R2, and R3 are configured as shown, and traffic from R2 fails to reach 172.29.168.3.

Which action can you take to correct the problem?

```

R1
!
interface FastEthernet0/0
description TO R2
ip address 172.17.17.1 255.255.255.128
!
interface FastEthernet0/1
description TO R3
ip address 10.17.12.1 255.255.255.0
!
ip route 172.29.168.3 255.255.255.255 172.17.17.2
!
router eigrp 10
no auto-summary
network 172.17.17.0 0.0.0.127
network 10.17.12.0 0.0.0.255

R2
!
interface FastEthernet0/0
description TO R1
ip address 172.17.17.2 255.255.255.128
!
ip route 0.0.0.0 0.0.0.0 172.17.17.1
!
router eigrp 10
no auto-summary
network 172.17.17.0 0.0.0.255

R3
!
interface loopback0
ip address 172.29.168.3 255.255.255.255
!
interface FastEthernet0/0
description TO R1
ip address 10.17.12.3 255.255.255.0
!
router eigrp 10
no auto-summary
network 172.29.168.3 0.0.0.0
network 10.17.12.3 255.255.255.0
!

```

```

R1
!
interface FastEthernet0/0
description TO R2
ip address 172.17.17.1 255.255.255.128
!
interface FastEthernet0/1
description TO R3
ip address 10.17.12.1 255.255.255.0
!
ip route 172.29.168.3 255.255.255.255 172.17.17.2
!
router eigrp 10
no auto-summary
network 172.17.17.0 0.0.0.127
network 10.17.12.0 0.0.0.255

R2
!
interface FastEthernet0/0
description TO R1
ip address 172.17.17.2 255.255.255.128
!
ip route 0.0.0.0 0.0.0.0 172.17.17.1
!
router eigrp 10
no auto-summary
network 172.17.17.0 0.0.0.255

R3
!
interface loopback0
ip address 172.29.168.3 255.255.255.255
!
interface FastEthernet0/0
description TO R1
ip address 10.17.12.3 255.255.255.0
!
router eigrp 10
no auto-summary
network 172.29.168.3 0.0.0.0
network 10.17.12.3 255.255.255.0
!

```

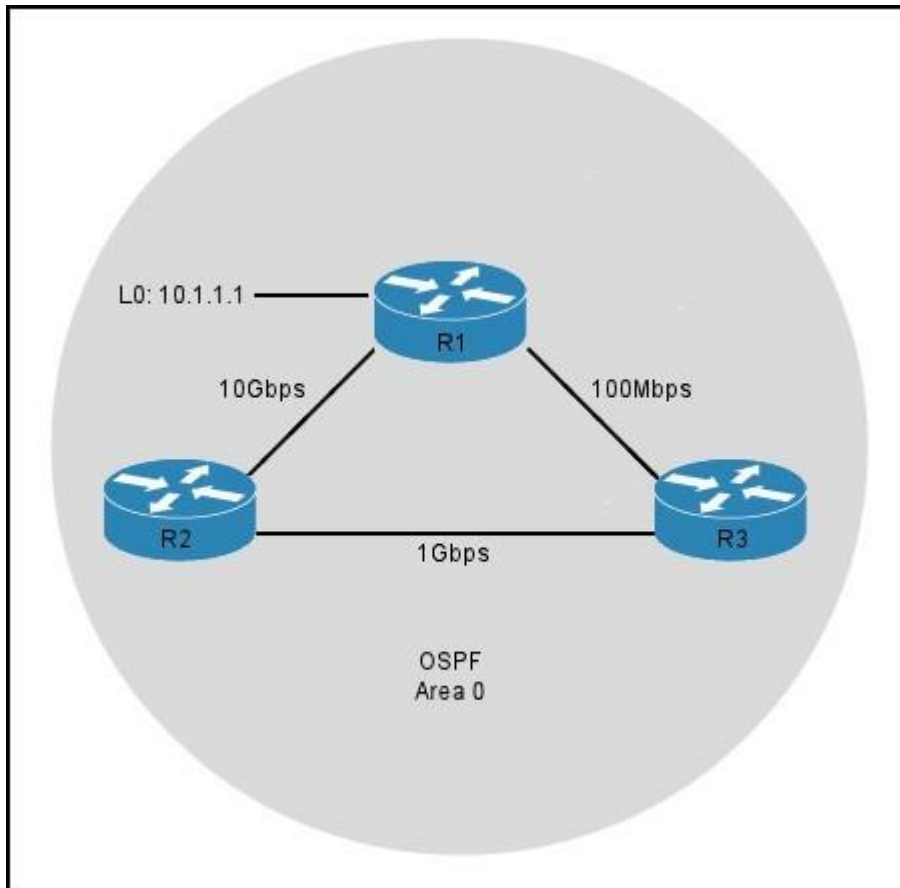
- A. Correct the static route on R1.

- B. Correct the default route on R2.
- C. Edit the EIGRP configuration of R3 to enable auto-summary.
- D. Correct the network statement for 172.29.168.3 on R3.

Answer: A

QUESTION 11

Refer to the exhibit. R3 prefers the path through R1 to reach host 10.1.1.1. Which option describes the reason for this behavior?



- A. The OSPF reference bandwidth is too small to account for the higher speed links through R2.
- B. The default OSPF cost through R1 is less than the cost through R2.
- C. The default OSPF cost through R1 is more than the cost through R2.
- D. The link between R2 and R1 is congested.

Answer: A

QUESTION 12

Refer to the exhibit. For which reason could a BGP-speaking device in autonomous system 65534 be prevented from installing the given route in its BGP table?

```
*>172.21.95.0/22 172.17.192.1 0 120 0 65534 65535 65100 65235 ?
```

- A. The AS number of the BGP is specified in the given AS_PATH.
- B. The origin of the given route is unknown.
- C. BGP is designed only for publicly routed addresses.
- D. The AS_PATH for the specified prefix exceeds the maximum number of ASs allowed.
- E. BGP does not allow the AS number 65535.

Answer: A

QUESTION 13

Which statement about the feasibility condition in EIGRP is true?

- A. The prefix is reachable via an EIGRP peer that is in the routing domain of the router.
- B. The EIGRP peer that advertises the prefix to the router has multiple paths to the destination.
- C. The EIGRP peer that advertises the prefix to the router is closer to the destination than the router.
- D. The EIGRP peer that advertises the prefix cannot be used as a next hop to reach the destination.

Answer: C

QUESTION 14

Which two statements about the function of the stub feature in EIGRP are true? (Choose two.)

- A. It stops the stub router from sending queries to peers.
- B. It stops the hub router from sending queries to the stub router.
- C. It stops the stub router from propagating dynamically learned EIGRP prefixes to the hub routers .
- D. It stops the hub router from propagating dynamically learned EIGRP prefixes to the stub routers .

Answer: BC

QUESTION 15

In which type of EIGRP configuration is EIGRP IPv6 VRF-Lite available?

- A. stub
- B. named mode
- C. classic mode
- D. passive

Answer: B

QUESTION 16

Two routers are trying to establish an OSPFv3 adjacency over an Ethernet link, but the adjacency is not forming. Which two options are possible reasons that prevent OSPFv3 to form between these two routers? (Choose two.)

- A. mismatch of subnet masks

- B. mismatch of network types
- C. mismatch of authentication types
- D. mismatch of instance IDs
- E. mismatch of area types

Answer: DE

QUESTION 17

Like OSPFv2, OSPFv3 supports virtual links. Which two statements are true about the IPv6 address of a virtual neighbor? (Choose two.)

- A. It is the link-local address, and it is discovered by examining the hello packets received from the virtual neighbor.
- B. It is the link-local address, and it is discovered by examining link LSA received by the virtual neighbor.
- C. It is the global scope address, and it is discovered by examining the router LSAs received by the virtual neighbor.
- D. Only prefixes with the LA-bit not set can be used as a virtual neighbor address.
- E. It is the global scope address, and it is discovered by examining the intra-area-prefix-LSAs received by the virtual neighbor.
- F. Only prefixes with the LA-bit set can be used as a virtual neighbor address.

Answer: EF

QUESTION 18

Which field is specific to the OSPFv3 packet header, as opposed to the OSPFv2 packet header?

- A. checksum
- B. router ID
- C. AuType
- D. instance ID

Answer: D

QUESTION 19

Which two functions are performed by the DR in OSPF? (Choose two.)

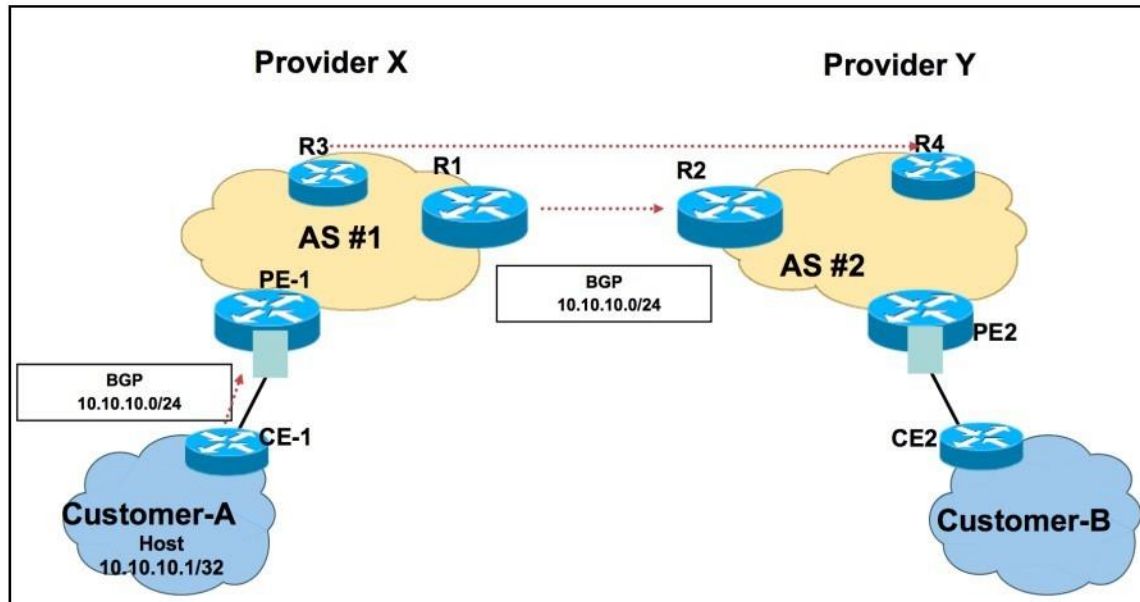
- A. The DR originates the network LSA on behalf of the network.
- B. The DR is responsible for the flooding throughout one OSPF area.
- C. The DR forms adjacencies with all other OSPF routers on the network, in order to synchronize the LSDB across the adjacencies.
- D. The DR is responsible for originating the type 4 LSAs into one area.

Answer: AC

QUESTION 20

Refer to the exhibit. AS #1 and AS #2 have multiple EBGP connections with each other. AS #1 wants all return traffic that is destined to the prefix 10.10.10.1/32 to enter through the router R1 from AS #2. In order to achieve this routing policy, the AS 1 advertises a lower MED from R1, compared to a higher MED from R3, to their respective BGP neighbor for the prefix

10.10.10.0/24. Will this measure guarantee that the routing policy is always in effect?



- A. Yes, because MED plays a deterministic role in return traffic engineering in BGP.
- B. Yes, because a lower MED forces BGP best-path route selection in AS #2 to choose R1 as the best path for 10.10.10.0/24.
- C. Yes, because a lower MED in AS #2 is the highest BGP attribute in BGP best-path route selection.
- D. No, AS #2 can choose to alter the weight attribute in R2 for BGP neighbor R1, and this weight value is cascaded across AS #2 for BGP best-path route selection.
- E. No, AS #2 can choose to alter the local preference attribute to overwrite the best-path route selection over the lower MED advertisement from AS #1. This local preference attribute is cascaded across AS #2 for the BGP best-path route selection.

Answer: E

QUESTION 21

Which regular expression will only allow prefixes that originated from AS 65000 and that are learned through AS 65001?

- A. ^65000_65001\$
- B. 65000_65001\$
- C. ^65000_65001
- D. ^65001_65000\$

Answer: D

QUESTION 22

Which statement describes the BGP add-path feature?

- A. It allows for installing multiple IBGP and EBGP routes in the routing table.
- B. It allows a network engineer to override the selected BGP path with an additional path created in the config.

- C. It allows BGP to provide backup paths to the routing table for quicker convergence.
- D. It allows multiple paths for the same prefix to be advertised.

Answer: D

QUESTION 23

Refer to the exhibit. What does "(received-only)" mean?

```
R1>sh ip bgp 10.1.1.1
BGP routing table entry for 10.1.0.0/16, version 182
Paths: (2 available, best #1, table default, not advertised to EBGp peer)
  Advertised to update-groups:
    2
  Refresh Epoch 1
  50811 65112
    172.28.1.5 from 172.28.1.5 (192.168.236.222)
      Origin incomplete, localpref 800, valid, external, best
      Community: no-export
      rx pathid: 0, tx pathid: 0x0
  Refresh Epoch 1
  50811 65112, (received-only)
    172.28.1.5 from 172.28.1.5 (192.168.236.222)
      Origin incomplete, localpref 100, valid, external
      Community: 65112:21147 50811:11145
      rx pathid: 0, tx pathid: 0
R1>
```

- A. The prefix 10.1.1.1 can not be advertised to any eBGP neighbor.
- B. The prefix 10.1.1.1 can not be advertised to any iBGP neighbor.
- C. BGP soft reconfiguration outbound is applied.
- D. BGP soft reconfiguration inbound is applied.

Answer: D

QUESTION 24

Refer to the exhibit. Which statement is true?

```
C#show ipv6 route ::/0
IPv6 Routing Table - 6 entries
Codes: C - Connected, L - Local, S - Static, R - RIP, B - BGP
       I1 - ISIS L1, I2 - ISIS L2, IA - ISIS interarea, IS - ISIS summary
I1  ::/0 [115/10]
    via FE80::A8BB:CCFF:FE00:401, Ethernet1/0
    via ::, Ethernet0/0
```

- A. There is no issue with forwarding IPv6 traffic from this router.
- B. IPv6 traffic can be forwarded from this router, but only on Ethernet1/0.
- C. IPv6 unicast routing is not enabled on this router.
- D. Some IPv6 traffic will be blackholed from this router.

Answer: D

QUESTION 25

Refer to the exhibit. What is a reason for the RIB-failure?

```
R1#show bgp ipv4 unicast 10.100.1.1/32
BGP routing table entry for 10.100.1.1/32, version 8
Paths: (2 available, best #1, table default, RIB-failure(17))
  Advertised to update-groups:
    2
  Refresh Epoch 2
  4
    10.1.3.4 from 10.1.3.4 (10.100.1.1)
      Origin IGP, metric 0, localpref 100, valid, external, best
      rx pathid: 0, tx pathid: 0x0
  Refresh Epoch 2
  5 4
    10.1.5.5 from 10.1.5.5 (10.1.5.5)
      Origin IGP, localpref 100, valid, external
      rx pathid: 0, tx pathid: 0
```

- A. CEF is not enabled on this router.
- B. The route 10.100.1.1/32 is in the routing table, but not as a BGP route.
- C. The routing table has yet to be updated with the BGP route.
- D. The BGP route is filtered inbound and hence is not installed in the routing table.

Answer: B

QUESTION 26

Refer to the exhibit. Which statement is true?

```
R1#show bgp ipv4 unicast summary
BGP router identifier 10.1.3.1, local AS number 1
BGP table version is 2, main routing table version 2
1 network entries using 144 bytes of memory
1 path entries using 80 bytes of memory
1/1 BGP path/bestpath attribute entries using 144 bytes of memory
1 BGP AS-PATH entries using 24 bytes of memory
0 BGP route-map cache entries using 0 bytes of memory
0 BGP filter-list cache entries using 0 bytes of memory
BGP using 392 total bytes of memory
BGP activity 1/0 prefixes, 1/0 paths, scan interval 60 secs
```

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd
10.1.1.2	4	2	69	69	2	0	0	01:00:54	0
10.1.2.3	4	3	69	70	1	0	0	01:00:45	0
10.1.3.4	4	4	72	70	2	0	0	01:01:12	1

- A. BGP peer 10.1.2.3 is performing inbound filtering.
- B. BGP peer 10.1.2.3 is a route reflector.
- C. R1 is a route reflector, but BGP peer 10.1.2.3 is not a route reflector client.
- D. R1 still needs to send an update to the BGP peer 10.1.2.3.

Answer: D

QUESTION 27

Refer to the exhibit. Router A and router B are physically connected over an Ethernet interface, and ISIS is configured as shown. Which option explains why the ISIS neighborship is not getting formed between router A and router B?

```
RouterA#  
conf t  
router isis  
  net 49.5200.1580.3500.6002.00  
  
RouterB#  
conf t  
router isis 1  
  net 49.5200.1580.3500.6002.00
```

- A. same area ID
- B. same N selector
- C. same domain ID
- D. same system ID

Answer: D

QUESTION 28

Refer to the exhibit. Which statement is true?

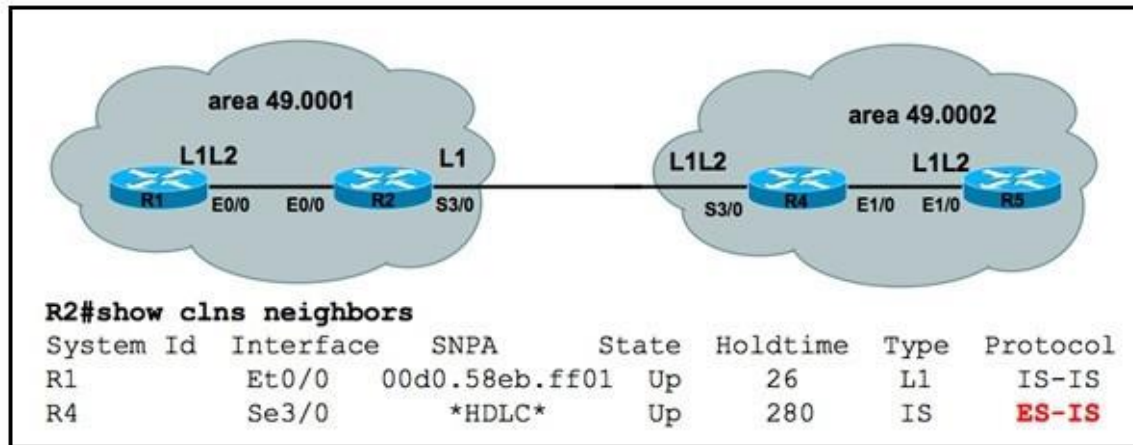
```
R4#show isis database R4.00-00 detail  
IS-IS Level-2 LSP R4.00-00  
LSPID          LSP Seq Num  LSP Checksum  LSP Holdtime  ATT/P/OL  
R4.00-00        * 0x000022BE  0xD36A        1194          0/0/0  
Area Address: 49.0001  
NLPID:          0x81 0xCC 0x8E  
Hostname: R4  
IP Address:     10.1.100.4  
IPv6 Address:   2001:100::1:4  
Metric: 10      IS-Extended R3.00  
Metric: 10      IS-Extended R5.03  
Metric: 10      IP 10.1.1.0/24  
Metric: 10      IP 10.1.2.0/24  
Metric: 10      IP 10.1.3.0/24  
Metric: 10      IP 10.1.100.4/32  
Metric: 50      IP 10.200.200.200/32  
Metric: 10      IPv6 2001:1::1:0/112  
Metric: 10      IPv6 2001:1::2:0/112  
Metric: 10      IPv6 2001:100::1:4/128
```

- A. IS-IS has been enabled on R4 for IPv6, single-topology.
- B. IS-IS has been enabled on R4 for IPv6, multitopology.
- C. IS-IS has been enabled on R4 for IPv6, single-topology and multitopology.
- D. R4 advertises IPv6 prefixes, but it does not forward IPv6 traffic, because the protocol has not been enabled under router IS-IS.

Answer: A

QUESTION 29

Refer to the exhibit. Why is the neighbor relationship between R2 and R4 shown as ES-IS?



- A. because there is an MTU mismatch between R2 and R4
- B. because interface S3/0 of R4 is configured as L1/L2
- C. because interface S3/0 of R2 is configured as L1
- D. because there is a hello interval mismatch between R2 and R4

Answer: C

QUESTION 30

Refer to the exhibit. The interface FastEthernet0/1 of both routers R4 and R5 is connected to the same Ethernet segment with a multicast receiver. Which two statements are true? (Choose two)

```

R4
interface FastEthernet0/1
ip address 192.168.2.1 255.255.255.0
ip pim sparse-dense-mode
duplex auto
speed auto
standby 1 ip 192.168.2.4
standby 1 priority 150
standby 1 preempt

R5
interface FastEthernet0/1
ip address 192.168.2.2 255.255.255.0
ip pim sparse-dense-mode
duplex auto
speed auto
standby 1 ip 192.168.2.4
  
```

- A. Multicast traffic that is destined to a receiver with IP address 192.168.2.6 will flow through router R4.
- B. Both routers R4 and R5 will send PIM join messages to the RP.
- C. Only router R5 will send a multicast join message to the RP.

D. Multicast traffic that is destined to a receiver with IP address 192.168.2.6 will flow through router R5.

Answer: CD

QUESTION 31

Refer to the exhibit. This is the configuration of the ASBR of area 110. Which option explains why the remote ABR should not translate the type 7 LSA for the prefix 192.168.0.0/16 into a type 5 LSA?

```
router ospf 100
router-id 4.4.4.4
area 110 nssa
summary-address 192.168.0.0 255.255.0.0 nssa-only
redistribute static metric-type 1 subnets tag 704
network 110.110.0.0 0.0.255.255 area 110
```

- A. The remote ABR translates all type 7 LSA into type 5 LSA, regardless of any option configured in the ASBR.
- B. The ASBR sets the forwarding address to 0.0.0.0 which instructs the ABR not to translate the LSA into a type 5 LSA.
- C. The ASBR originates a type 7 LSA with age equal to MAXAGE 3600.
- D. The ABR clears the P bit in the header of the type 7 LSA for 192.168.0.0/16.

Answer: D

QUESTION 32

What is the function of an EIGRP sequence TLV packet?

- A. to acknowledge a set of sequence numbers during the startup update process
- B. to list the peers that should listen to the next multicast packet during the reliable multicast process
- C. to list the peers that should not listen to the next multicast packet during the reliable multicast process
- D. to define the initial sequence number when bringing up a new peer

Answer: C

QUESTION 33

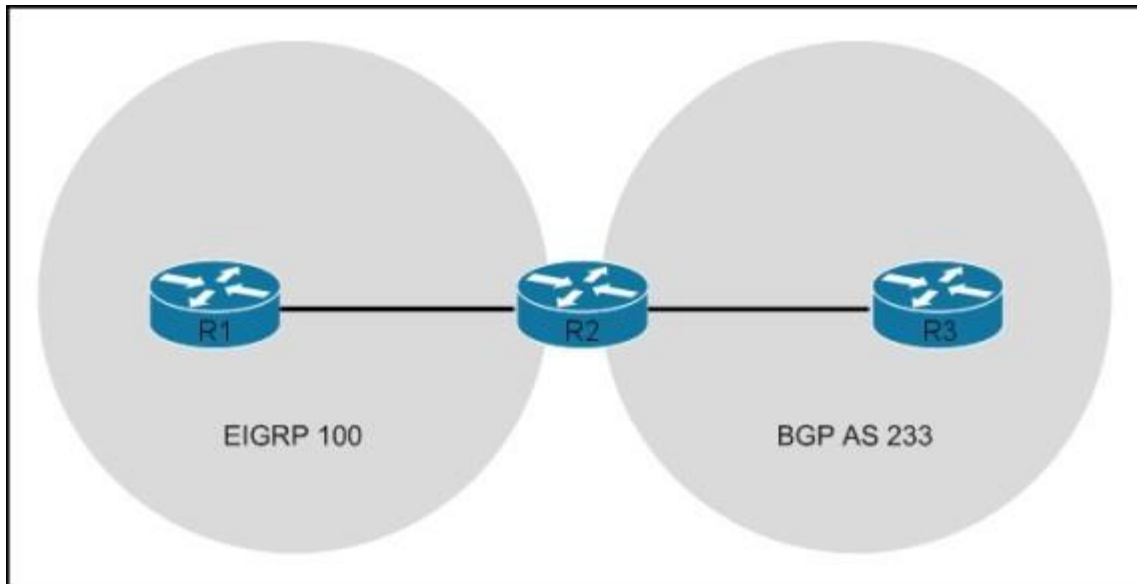
What are two reasons to define static peers in EIGRP? (Choose two.)

- A. Security requirements do not allow dynamic learning of neighbors.
- B. The link between peers requires multicast packets.
- C. Back-level peers require static definition for successful connection.
- D. The link between peers requires unicast packets.

Answer: AD

QUESTION 34

Refer to the exhibit. R2 is mutually redistributing between EIGRP and BGP. Which configuration is necessary to enable R1 to see routes from R3?



- A. The R3 configuration must include `ebgp-multihop` to the neighbor statement for R2.
- B. The R2 BGP configuration must include `bgp redistribute-internal`.
- C. R1 must be configured with `next-hop-self` for the neighbor going to R2.
- D. The AS numbers configured on R1 and R2 must match.

Answer: B

QUESTION 35

What is the purpose of EIGRP summary leaking?

- A. to allow a summary to be advertised conditionally on specific criteria
- B. to allow a component of a summary to be advertised in addition to the summary
- C. to allow overlapping summaries to exist on a single interface
- D. to modify the metric of the summary based on which components of the summary are operational

Answer: B

QUESTION 36

Refer to the exhibit. You have just created a new VRF on PE3. You have enabled `debug ip bgp vpnv4 unicast` updates on PE1, and you can see the route in the debug, but not in the BGP VPNv4 table. Which two statements are true? (Choose two.)

```
*May20 12:16: BGP(4):10.1.1.2 rcvd UPDATE w/ attr:nexthop 10.1.1.2,origin ?, localpref 100,metric 0,extended community RT:999:999
*May20 12:16: BGP(4):10.1.1.2 rcvd 999:999:192.168.1.99/32,label 29--DENIED due to:extended community not supported
```

- A. VPNv4 is not configured between PE1 and PE3.
- B. `address-family ipv4 vrf` is not configured on PE3.
- C. After you configure `route-target import 999:999` for a VRF on PE3, the route will be accepted.
- D. PE1 will reject the route due to automatic route filtering.
- E. After you configure `route-target import 999:999` for a VRF on PE1, the route will be accepted.

Answer: DE

QUESTION 37

In GETVPN, which key is used to secure the control plane?

- A. Traffic Encryption Key (TEK)
- B. content encryption key (CEK)
- C. message encryption key (MEK)
- D. Key Encryption Key (KEK).

Answer: D

QUESTION 38

Refer to the exhibit. NHRP registration is failing; what might be the problem?

```
R6#debug nhrp
NHRP protocol debugging is on
*Apr 14 02:05:29.416: NHRP: Attempting to send packet through interface Tunnel0 via DEST dst 10.250.20.1
*Apr 14 02:05:29.416: NHRP: Encapsulation succeeded. Sending NHRP Control Packet NBMA Address: 192.168.1.1
*Apr 14 02:05:29.416: NHRP: Send Registration Request via Tunnel0 vrf 0, packet size: 105
*Apr 14 02:05:29.416:      src: 10.250.20.6, dst: 10.250.20.1
*Apr 14 02:05:29.416: NHRP: 133 bytes out Tunnel0
*Apr 14 02:05:29.416: NHRP: Resetting retransmit due to hold-timer for 10.250.20.1
*Apr 14 02:05:30.306: NHRP: Setting retrans delay to 2 for nhs dst 10.250.20.1

R6#sh ip nhrp brief
  Target          Via          NBMA          Mode  Intfc  Claimed
R6#
```

- A. invalid IP addressing
- B. fragmentation
- C. incorrect NHRP mapping
- D. incorrect NHRP authentication

Answer: D

QUESTION 39

Which statement is true comparing L2TPv3 to EoMPLS?

- A. L2TPv3 requires OSPF routing, whereas EoMPLS does not.
- B. EoMPLS requires BGP routing, whereas L2TPv3 does not.
- C. L2TPv3 carries L2 frames inside MPLS tagged packets, whereas EoMPLS carries L2 frames inside IPv4 packets.
- D. L2TPv3 carries L2 frames inside IPv4 packets, whereas EoMPLS carries L2 frames inside MPLS packets.

Answer: D

QUESTION 40

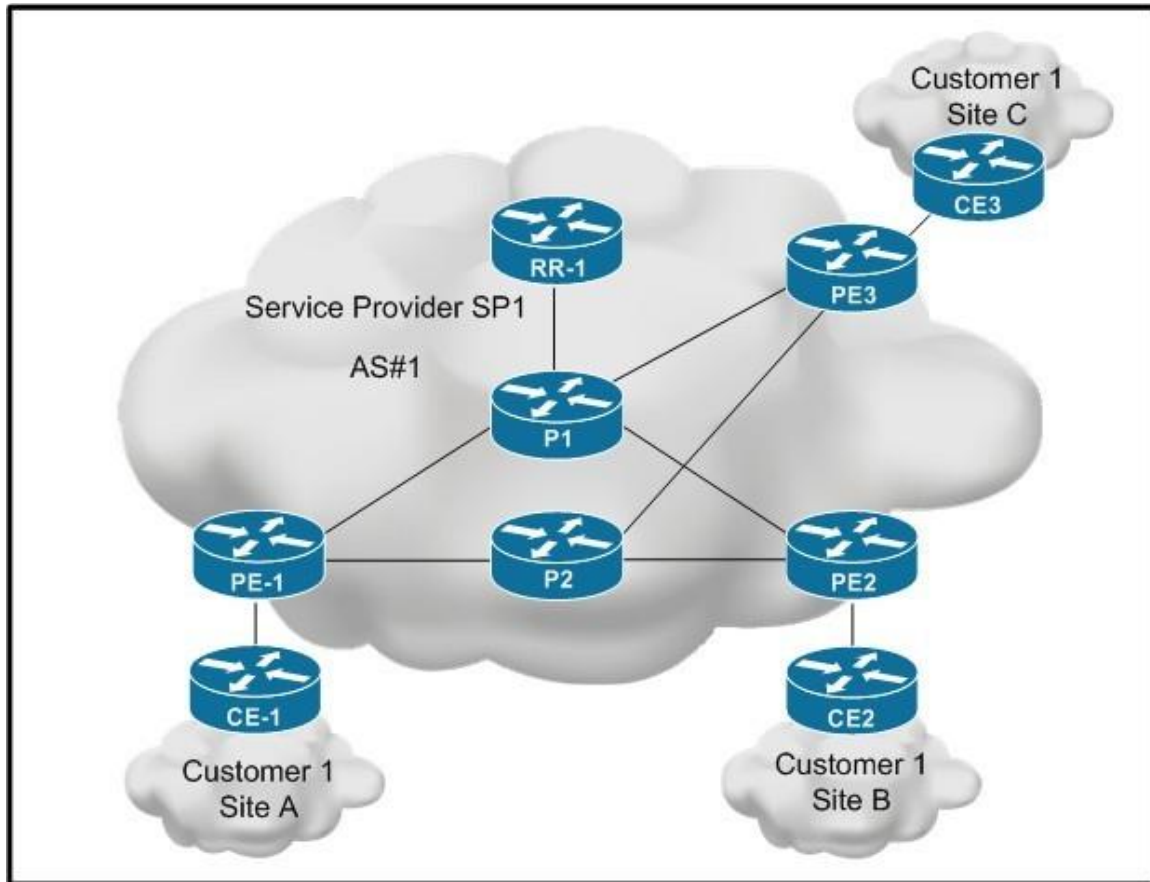
Which statement is true about VPLS?

- A. MPLS is not required for VPLS to work.
- B. VPLS carries packets as Layer 3 multicast.
- C. VPLS has been introduced to address some shortcomings of OTV.
- D. VPLS requires an MPLS network.

Answer: D

QUESTION 41

Refer to the exhibit. Service provider SP 1 is running the MPLS-VPN service. The MPLS core network has MP-BGP configured with RR-1 as route reflector. What will be the effect on traffic between PE1 and PE2 if router P1 goes down?



- A. No effect, because all traffic between PE1 and PE2 will be rerouted through P2.
- B. No effect, because P1 was not the only P router in the forwarding path of traffic.
- C. No effect, because RR-1 will find an alternative path for MP-BGP sessions to PE-1 and PE-2.
- D. All traffic will be lost because RR-1 will lose the MP-BGP sessions to PE-1 and PE-2.

Answer: D

QUESTION 42

According to RFC 4577, OSPF for BGP/MPLS IP VPNs, when must the down bit be set?

- A. when an OSPF route is distributed from the PE to the CE, for Type 3 LSAs
- B. when an OSPF route is distributed from the PE to the CE, for Type 5 LSAs
- C. when an OSPF route is distributed from the PE to the CE, for Type 3 and Type 5 LSAs
- D. when an OSPF route is distributed from the PE to the CE, for all types of LSAs

Answer: C

QUESTION 43

Refer to the exhibit. What is a possible reason for the IPSEC tunnel not establishing?

```
IPSEC(ipsec_process_proposal): proxy identities not supported
```

- A. The peer is unreachable.
- B. The transform sets do not match.
- C. The proxy IDs are invalid.
- D. The access lists do not match.

Answer: D

QUESTION 44

What is a key advantage of Cisco GET VPN over DMVPN?

- A. Cisco GET VPN provides zero-touch deployment of IPSEC VPNs.
- B. Cisco GET VPN supports certificate authentication for tunnel establishment.
- C. Cisco GET VPN has a better anti-replay mechanism.
- D. Cisco GET VPN does not require a secondary overlay routing infrastructure.

Answer: D

QUESTION 45

Refer to the exhibit. What is wrong with the configuration of the tunnel interface of this DMVPN Phase II spoke router?

```
interface Tunnel0
 ip address 172.16.1.2 255.255.255.0
 ip nhrp map 172.16.1.1 192.168.1.1
 ip nhrp network-id 1
 ip nhrp nhs 172.16.1.1
 tunnel source 192.168.2.2
 ip mtu 1416
```

- A. The interface MTU is too high.
- B. The tunnel destination is missing.
- C. The NHRP NHS IP address is wrong.
- D. The tunnel mode is wrong.

Answer: D

QUESTION 46

Which two statements are true about VPLS? (Choose two.)

- A. It can work over any transport that can forward IP packets.
- B. It provides integrated mechanisms to maintain First Hop Resiliency Protocols such as HSRP, VRRP, or GLBP.

- C. It includes automatic detection of multihoming.
- D. It relies on flooding to propagate MAC address reachability information.
- E. It can carry a single VLAN per VPLS instance.

Answer: DE

QUESTION 47

Refer to the exhibit. What will be the extended community value of this route?

```
!  
ip vrf Cust123  
  rd 200:3000  
  export map Cust123mgmt  
  route-target export 200:3000  
!  
route-map Cust123mgmt permit 10  
  set extcommunity rt 200:9999  
!
```

- A. RT:200:3000 RT:200:9999
- B. RT:200:9999 RT:200:3000
- C. RT:200:3000
- D. RT:200:9999

Answer: D

QUESTION 48

Refer to the exhibit. Which statement is true?

```
CE1#trace  
Protocol [ip]: ipv6  
Target IPv6 address: 2001:db8:100:1::7  
Source address: 2001:db8:100:1::5  
Insert source routing header? [no]:  
Numeric display? [no]:  
Timeout in seconds [3]:  
Probe count [3]:  
Minimum Time to Live [1]:  
Maximum Time to Live [30]:  
Priority [0]:  
Port Number [0]:  
Type escape sequence to abort.  
Tracing the route to 2001:10:100:1::7  
  
 1 2001:db8:1:5::1 1 msec 1 msec 1 msec  
 2 ::FFFF:10.1.2.4 [MPLS: Labels 17/23 Exp 0] 2 msec 2 msec 2 msec  
 3 2001:db8:1:7::2 [AS 1] [MPLS: Label 23 Exp 0] 2 msec 1 msec 1 msec  
 4 2001:db8:1:7::7 [AS 1] 2 msec 1 msec 2 msec
```

- A. There is an MPLS network that is running 6PE, and the ingress PE router has no mpls ip propagate-ttl.
- B. There is an MPLS network that is running 6VPE, and the ingress PE router has no mpls ip propagate-ttl.

- C. There is an MPLS network that is running 6PE or 6VPE, and the ingress PE router has mpls ip propagate-ttl.
- D. There is an MPLS network that is running 6PE, and the ingress PE router has mpls ip propagate-ttl.
- E. There is an MPLS network that is running 6VPE, and the ingress PE router has mpls ip propagate-ttl.

Answer: C

QUESTION 49

Refer to the exhibit. Which statement is true about a VPNv4 prefix that is present in the routing table of vrf one and is advertised from this router?

```
vrf definition one
 rd 1:1
  route-target export 100:1
  route-target import 100:1
 !
 address-family ipv4
  route-target import 100:2
 exit-address-family
 !
 address-family ipv6
  route-target export 100:3
  route-target import 100:3
 exit-address-family
```

- A. The prefix is advertised only with route target 100:1.
- B. The prefix is advertised with route targets 100:1 and 100:2.
- C. The prefix is advertised only with route target 100:3.
- D. The prefix is not advertised.
- E. The prefix is advertised with route targets 100:1, 100:2, and 100:3.

Answer: A

QUESTION 50

Which is the way to enable the control word in an L2 VPN dynamic pseudowire connection on router R1?

- A. R1(config)# pseudowire-class cw-enable
R1(config-pw-class)# encapsulation mpls
R1(config-pw-class)# set control-word
- B. R1(config)# pseudowire-class cw-enable
R1(config-pw-class)# encapsulation mpls
R1(config-pw-class)# enable control-word
- C. R1(config)# pseudowire-class cw-enable
R1(config-pw-class)# encapsulation mpls
R1(config-pw-class)# default control-word
- D. R1(config)# pseudowire-class cw-enable
R1(config-pw-class)# encapsulation mpls
R1(config-pw-class)# control-word

Answer: D

QUESTION 51

What is the goal of Unicast Reverse Path Forwarding?

- A. to verify the reachability of the destination address in forwarded packets
- B. to help control network congestion
- C. to verify the reachability of the destination address in multicast packets
- D. to verify the reachability of the source address in forwarded packets

Answer: D

QUESTION 52

Which three features are considered part of the IPv6 first-hop security suite? (Choose three.)

- A. DNS guard
- B. destination guard
- C. DHCP guard
- D. ICMP guard
- E. RA guard
- F. DoS guard

Answer: BCE

QUESTION 53

Refer to the exhibit. Why is the router not accessible via Telnet on the GigabitEthernet0 management interface?

```
interface GigabitEthernet0
 ip vrf forwarding Mgmt-intf
 ip address 1.1.1.1 255.255.255.0

ip access-list extended telnet-acl
 permit tcp any 1.1.1.1 0.0.0.0 eq 23 log

line vty 0 4
 access-class telnet-acl in
 transport input telnet
```

- A. The wrong port is being used in the telnet-acl access list.
- B. The subnet mask is incorrect in the telnet-acl access list.
- C. The log keyword needs to be removed from the telnet-acl access list..
- D. The access class needs to have the vrf-also keyword added.

Answer: D

QUESTION 54

Which three modes are valid PfR monitoring modes of operation? (Choose three.)

- A. route monitor mode (based on BGP route changes)
- B. RMON mode (based on RMONv1 and RMONv2 data)
- C. passive mode (based on NetFlow data)
- D. active mode (based on Cisco IP SLA probes)
- E. fast mode (based on Cisco IP SLA probes)
- F. passive mode (based on Cisco IP SLA probes)

Answer: CDE

QUESTION 55

Refer to the exhibit. Which statement is true?

MC#sh pfr master border detail						
Border	Status	UP/DOWN		AuthFail	Version	
10.1.1.1	ACTIVE	UP	00:52:21	0	3.0	
Et0/0	INTERNAL	UP				
Et0/1	EXTERNAL	UP				
External Interface	Capacity (kbps)	Max BW (kbps)	BW Used (kbps)	Load (%)	Status	Exit Id
Et0/1	Tx 500	450	192	39	UP	2
	Rx	500	49	9		

Border	Status	UP/DOWN		AuthFail	Version	
10.1.1.2	ACTIVE	UP	00:52:21	0	3.0	
Et0/0	INTERNAL	UP				
Et0/1	EXTERNAL	UP				
External Interface	Capacity (kbps)	Max BW (kbps)	BW Used (kbps)	Load (%)	Status	Exit Id
Et0/1	Tx 500	450	175	33	UP	1
	Rx	500	0	0		

- A. The Cisco PfR state is UP; however, the external interface Et0/1 of border router 10.1.1.1 has exceeded the maximum available bandwidth threshold.
- B. The Cisco PfR state is UP; however, an issue is preventing the border router from establishing a TCP session to the master controller.
- C. The Cisco PfR state is UP and is able to monitor traffic flows; however, MD5 authentication has not been successful between the master controller and the border routers.
- D. The Cisco PfR State is UP; however, the receive capacity was not configured for inbound traffic.
- E. The Cisco PfR state is UP, and the link utilization out-of-policy threshold is set to 90 percent for traffic exiting the external links.

Answer: E

QUESTION 56

In the DiffServ model, which class represents the highest priority with the highest drop probability?

- A. AF11
- B. AF13
- C. AF41
- D. AF43

Answer: D

QUESTION 57

Refer to the exhibit. Which statement about this IP SLA is true?

```
Entry number: 1
Owner:
Tag:
Type of operation to perform: echo
Target address/Source address: 172.16.129.9/0.0.0.0
Type of Service parameter: 0x0
Request size (APP data portion): 28
Operation timeout (milliseconds): 5000
Verify data: No
Vrf Name:
Schedule:
  Operation frequency (seconds): 10
  Next Scheduled Start Time: Pending trigger
  Group Scheduled : FALSE
  Randomly Scheduled : FALSE
  Life (seconds): 3600
  Entry Ageout (seconds): never
  Recurring (Starting Everyday): FALSE
  Status of entry (SNMP RowStatus): notInService
Threshold (milliseconds): 5000
Distribution Statistics:
  Number of statistic hours kept: 2
  Number of statistic distribution buckets kept: 1
  Statistic distribution interval (milliseconds): 20
History Statistics:
  Number of history Lives kept: 0
  Number of history Buckets kept: 15
  History Filter Type: None
Enhanced History:
```

- A. The SLA must also have a schedule configured before it will start.
- B. The TTL of the SLA packets is 10.
- C. The SLA has a timeout of 3.6 seconds.
- D. The SLA has a lifetime of 5 seconds.

Answer: A

QUESTION 58

Refer to the exhibit. Which two are causes of output queue drops on FastEthernet0/0? (Choose two.)


```
#show interface FastEthernet0/0
FastEthernet0/0 is up, line protocol is up
  Hardware is PQII_PRO_UEC, address is 0024.14ac.0d3c (bia 001f.9e3c.a5c2)
  Internet address is 1.1.1.1/24
  MTU 1500 bytes, BW 100000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full Duplex, 100Mbps, media type is RJ45
  output flow-control is XON, input flow-control is XON
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:00, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/1000/0/0 (size/max/drops/flushes); Total output drops: 10000
  Queueing strategy: Class-based queueing
  Output queue: 100/1000/10000 (size/max total/drops)
  30 second input rate 361000 bits/sec, 204 packets/sec
  30 second output rate 711000000 bits/sec, 223000 packets/sec
  1221583901 packets input, 3044421428 bytes, 0 no buffer
  Received 91124750 broadcasts (0 IP multicasts)
  0 runs, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  1090847722 packets output, 796667418 bytes, 0 underruns
  0 output errors, 0 collisions, 0 interface resets
  0 unknown protocol drops
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 pause output
  0 output buffer failures, 0 output buffers swapped out
```

- A. an oversubscribed input service policy on FastEthernet0/0
- B. a duplex mismatch on FastEthernet0/0
- C. a bad cable connected to FastEthernet0/0
- D. an oversubscribed output service policy on FastEthernet0/0
- E. The router trying to send more than 100 Mb/s out of FastEthernet0/0

Answer: DE

QUESTION 59

Which three actions are required when configuring NAT-PT? (Choose three.)

- A. Enable NAT-PT globally.
- B. Specify an IPv4-to-IPv6 translation.
- C. Specify an IPv6-to-IPv4 translation.
- D. Specify a ::/96 prefix that will map to an IPv4 address.
- E. Specify a ::/48 prefix that will map to a MAC address.
- F. Specify a ::/32 prefix that will map to an IPv6 address.

Answer: BCD

QUESTION 60

Which two DHCP messages are always sent as broadcast? (Choose two.)

- A. DHCP OFFER

- B. DHCPDECLINE
- C. DHCPRELEASE
- D. DHCPREQUEST
- E. DHCPDISCOVER

Answer: DE

QUESTION 61

Refer to the exhibit. Which statement about the output is true?

```
Router#show ip cache flow
[...]
```

SrcIf	SrcIPaddress	DstIf	DstIPaddress	Pr	SrcP	DstP	Pkts
Vl1	144.254.10.206	Local	10.48.77.208	06	C363	01BB	2

- A. The flow is an HTTPS connection to the router, which is initiated by 144.254.10.206.
- B. The flow is an HTTP connection to the router, which is initiated by 144.254.10.206.
- C. The flow is an HTTPS connection that is initiated by the router and that goes to 144.254.10.206.
- D. The flow is an HTTP connection that is initiated by the router and that goes to 144.254.10.206.

Answer: A

QUESTION 62

Refer to the exhibit. Which statement about this COS-DSCP mapping is true?

```
Cos-dscp map:
cos:    0  1  2  3  4  5  6  7
-----
dscp:   0  8 16 46 36 38 42 32
```

- A. COS 3 is mapped to the expedited forwarding DSCP.
- B. COS 16 is mapped to DSCP 2.
- C. The default COS is mapped to DSCP 32.
- D. This mapping is the default COS-DSCP mapping on Cisco switches.

Answer: A

QUESTION 63

Which three statements about implementing a NAT application layer gateway in a network are true? (Choose three.)

- A. It allows client applications to use dynamic ports to communicate with a server regardless of whether NAT is being used.
- B. It maintains granular security over application-specific data.
- C. It allows synchronization between multiple streams of data between two hosts.
- D. Application layer gateway is used only in VoIP/SIP deployments.
- E. Client applications require additional configuration to use an application layer gateway.

- F. An application layer gateway inspects only the first 64 bytes of a packet before forwarding it through the network.

Answer: ABC

QUESTION 64

Refer to the exhibit. At which location will the benefit of this configuration be observed?

```
RouterA(config)#ip options drop
```

- A. on Router A and its upstream routers
- B. on Router A and its downstream routers
- C. on Router A only
- D. on Router A and all of its ARP neighbors

Answer: B

QUESTION 65

Where is multicast traffic sent, when it is originated from a spoke site in a DMVPN phase 2 cloud?

- A. spoke-spoke
- B. nowhere, because multicast does not work over DMVPN
- C. spoke-spoke and spoke-hub
- D. spoke-hub

Answer: D

QUESTION 66

Refer to the exhibit. A spoke site that is connected to Router-A cannot reach a spoke site that is connected to Router- B, but both spoke sites can reach the hub. What is the likely cause of this issue?

```
Router-A# show ip nhrp
10.0.2.1/32 via 10.0.2.1, Tunnel0 created 00:00:21, expire 00:05:38
  Type: dynamic, Flags: authoritative unique registered used
NBMA address: 144.254.21.2
  (Claimed NBMA address: 172.16.2.1)

Router-B# show ip nhrp
10.0.1.1/32 via 10.0.1.1, Tunnel0 created 00:00:13, expire 00:05:48
  Type: dynamic, Flags: authoritative unique registered used
NBMA address: 72.34.1.2
```

- A. There is a router doing PAT at site B.
- B. There is a router doing PAT at site A.
- C. NHRP is learning the IP address of the remote spoke site as a /32 address rather than a /24 address.
- D. There is a routing issue, as NHRP registration is working.

Answer: B

QUESTION 67

Which mechanism can be used on Layer 2 switches so that only multicast packets with downstream receivers are sent on the multicast router-connected ports?

- A. IGMP snooping
- B. Router Guard
- C. PIM snooping
- D. multicast filtering

Answer: C

QUESTION 68

What is the cause of ignores and overruns on an interface, when the overall traffic rate of the interface is low?

- A. a hardware failure of the interface
- B. a software bug
- C. a bad cable
- D. microbursts of traffic

Answer: D

QUESTION 69

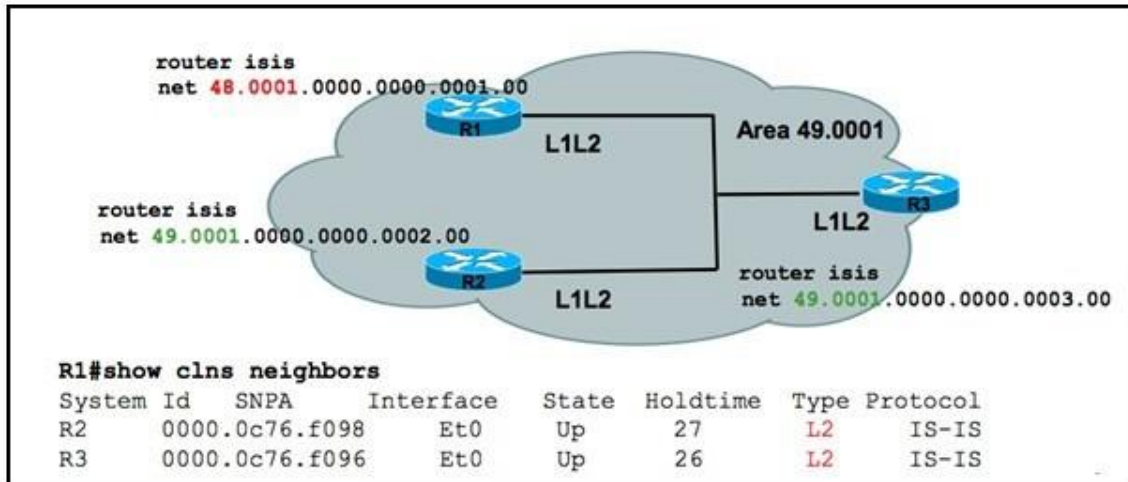
With which ISs will an ISIS Level 1 IS exchange routing information?

- A. Level 1 ISs
- B. Level 1 ISs in the same area
- C. Level 1 and Level 2 ISs
- D. Level 2 ISs

Answer: B

QUESTION 70

Refer to the exhibit. Why is the neighbor relationship between R1 & R2 and R1 & R3 an L2-type neighborhood?



- A. because the area ID on R1 is different as compared to the area ID of R2 and R3
- B. because the circuit type on those three routers is L1/L2
- C. because the network type between R1, R2, and R3 is point-to-point
- D. because the hello interval is not the same on those three routers

Answer: A

QUESTION 71

Which three statements about the designated router election in IS-IS are true? (Choose three.)

- A. If the IS-IS DR fails, a new DR is elected.
- B. The IS-IS DR will preempt. If a new router with better priority is added, it just becomes active in the network.
- C. If there is a tie in DR priority, the router with a higher IP address wins.
- D. If there is a tie in DR priority, the router with a higher MAC address wins.
- E. If the DR fails, the BDR is promoted as the DR.
- F. The DR is optional in a point-to-point network.

Answer: ABD

QUESTION 72

Which three elements compose a network entity title? (Choose three.)

- A. area ID
- B. domain ID
- C. system ID
- D. NSAP selector
- E. MAC address
- F. IP address

Answer: ACD

QUESTION 73

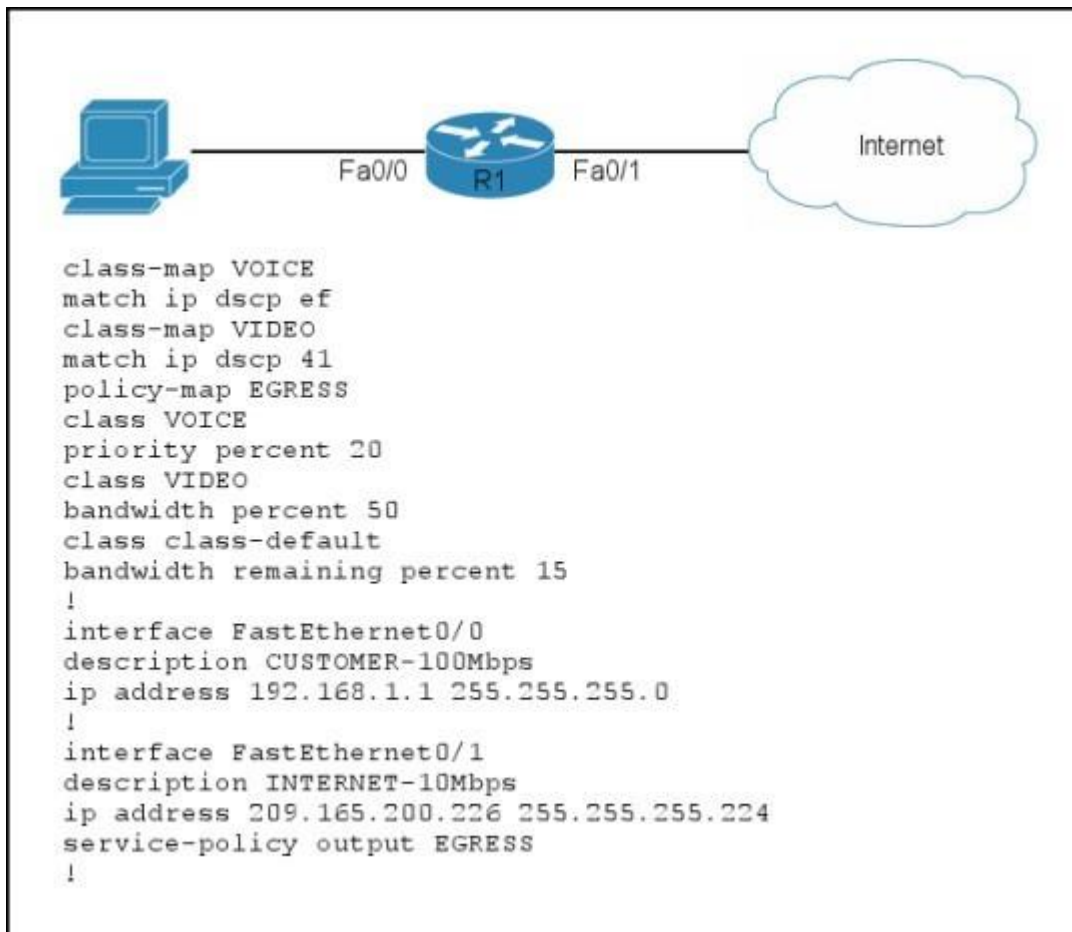
Which statement about shaped round robin queuing is true?

- A. Queues with higher configured weights are serviced first.
- B. The device waits a period of time, set by the configured weight, before servicing the next queue.
- C. The device services a single queue completely before moving on to the next queue.
- D. Shaped mode is available on both the ingress and egress queues.

Answer: A

QUESTION 74

Refer to the exhibit. You discover that only 1.5 Mb/s of web traffic can pass during times of congestion on the given network.



Which two options are possible reasons for this limitation? (Choose two.)

- A. The web traffic class has too little bandwidth reservation.
- B. Video traffic is using too much bandwidth.
- C. The service-policy is on the wrong interface.
- D. The service-policy is going in the wrong direction.
- E. The NAT policy is adding too much overhead.

Answer: AB

QUESTION 75

Refer to the exhibit. Which statement about the debug behavior of the device is true?

```
San_Jose#show debug
Load for five secs: 0%/0%; one minute: 0%; five minutes: 0%
Time source is NTP, 09:10:59.124 PST Thu Aug 22 2013
Condition 1: ip 172.16.129.4 (0 flags triggered)
```

- A. The device debugs all IP events for 172.16.194.4.
- B. The device sends all debugging information for 172.16.194.4.
- C. The device sends only NTP debugging information to 172.16.194.4.
- D. The device sends debugging information every five seconds.

Answer: A

QUESTION 76

Refer to the exhibit. Which statement about this device configuration is true?

```
snmp-server community public RO 2
snmp-server trap-source Loopback0
snmp-server chassis-id HONGKONG
snmp-server enable traps snmp linkdown linkup coldstart
snmp-server enable traps ospf state-change
snmp-server enable traps bgp state-changes
snmp-server enable traps pim neighbor-change
snmp-server enable traps cpu threshold
snmp-server enable traps mpls ldp
snmp-server host 192.168.252.254 version 2c public
```

- A. The NMS needs a specific route configured to enable it to reach the Loopback0 interface of the device.
- B. The ifindex of the device could be different when the device is reloaded.
- C. The device will allow anyone to poll it via the public community.
- D. The device configuration requires the AuthNoPriv security level.

Answer: B

QUESTION 77

Which three steps are necessary to enable SSH? (Choose three.)

- A. generating an RSA or DSA cryptographic key
- B. configuring the version of SSH
- C. configuring a domain name
- D. configuring VTY lines for use with SSH
- E. configuring the port for SSH to listen for connections
- F. generating an AES or SHA cryptographic key

Answer: ACD

QUESTION 78

Which two features does the show ipv6 snooping features command show information about? (Choose two.)

- A. RA guard
- B. DHCP guard
- C. ND inspection
- D. source guard

Answer: AC

QUESTION 79

Refer to the exhibit. Which two statements about how the configuration processes Telnet traffic are true? (Choose two.)

```
R1#sh policy-map control-plane

Service-policy input: CoPP-POLICY

  Class-map: CoPP-CLASS (match-all)
    8 packets, 480 bytes
    5 minute offered rate 0 bps, drop rate 0 bps
    Match: access-group name R9-T0-R2
    police:
      rate 10 pps, burst 0 packets
      conformed 0 packets; actions:
        drop
      exceeded 8 packets; actions:
        drop
      conformed 0 pps, exceed 0 pps

  Class-map: class-default (match-any)
    929 packets, 86395 bytes
    5 minute offered rate 0 bps, drop rate 0 bps
    Match: any

R1#sh access-lists
Extended IP access list R9-T0-R2
  10 permit tcp host 10.1.1.9 host 10.10.10.1 eq telnet (4 matches)
  20 deny tcp any any eq telnet (9 matches)
```

- A. Telnet traffic from 10.1.1.9 to 10.10.10.1 is dropped.
- B. All Telnet traffic is dropped.
- C. Telnet traffic from 10.10.10.1 to 10.1.1.9 is permitted.
- D. Telnet traffic from 10.1.1.9 to 10.10.10.1 is permitted.
- E. Telnet traffic is permitted to all IP addresses.

Answer: AC

QUESTION 80

Which three statements are functions that are performed by IKE phase 1? (Choose three.)

- A. It builds a secure tunnel to negotiate IKE phase 1 parameters.
- B. It establishes IPsec security associations.
- C. It authenticates the identities of the IPsec peers.
- D. It protects the IKE exchange by negotiating a matching IKE SA policy.
- E. It protects the identities of IPsec peers.
- F. It negotiates IPsec SA parameters.

Answer: CDE

QUESTION 81

The session status for an IPsec tunnel with IPv6-in-IPv4 is down with the error message IKE message from 10.10.1.1 failed its sanity check or is malformed.
Which statement describes a possible cause of this error?

- A. There is a verification failure on the IPsec packet.
- B. The SA has expired or has been cleared.
- C. The pre-shared keys on the peers are mismatched.
- D. There is a failure due to a transform set mismatch.
- E. An incorrect packet was sent by an IPsec peer.

Answer: C

QUESTION 82

Which three statements describe the characteristics of a VPLS architecture? (Choose three.)

- A. It forwards Ethernet frames.
- B. It maps MAC address destinations to IP next hops.
- C. It supports MAC address aging.
- D. It replicates broadcast and multicast frames to multiple ports.
- E. It conveys MAC address reachability information in a separate control protocol.
- F. It can suppress the flooding of traffic.

Answer: ACD

QUESTION 83

A GRE tunnel is down with the error message %TUN-5-RECURDOWN:

`Tunnel0 temporarily disabled due to recursive routing error.`

Which two options describe possible causes of the error? (Choose two.)

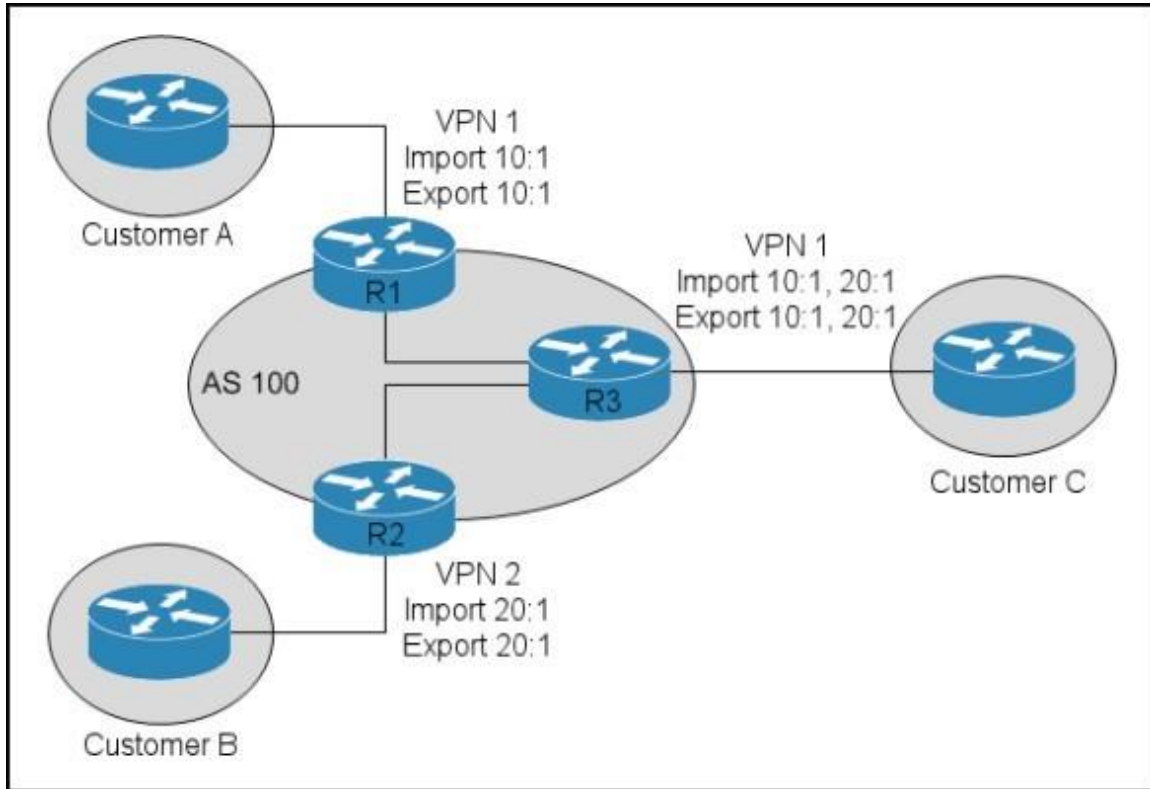
- A. Incorrect destination IP addresses are configured on the tunnel.
- B. There is link flapping on the tunnel.
- C. There is instability in the network due to route flapping.
- D. The tunnel mode and tunnel IP address are misconfigured.

E. The tunnel destination is being routed out of the tunnel interface.

Answer: CE

QUESTION 84

Refer to the exhibit. Which two statements about the VPN solution are true? (Choose two.)



- A. Customer A and customer B will exchange routes with each other.
- B. R3 will advertise routes received from R1 to R2.
- C. Customer C will communicate with customer A and B.
- D. Communication between sites in VPN1 and VPN2 will be blocked.
- E. R1 and R2 will receive VPN routes advertised by R3.

Answer: CE

QUESTION 85

Which three statements about IS-IS are true? (Choose three.)

- A. IS-IS can be used only in the service provider network.
- B. IS-IS can be used to route both IP and CLNP.
- C. IS-IS has three different levels of authentication: interface level, process level, and domain level.
- D. IS-IS is an IETF standard.
- E. IS-IS has the capability to provide address summarization between areas.

Answer: BCE

QUESTION 86

Which mechanism does Cisco recommend for CE router interfaces that face the service provider for an EVPL circuit with multiple EVCs and multiple traffic classes?

- A. HCBWFQ
- B. LLQ
- C. tail drop
- D. WRED

Answer: A

QUESTION 87

Which Carrier Ethernet service supports the multiplexing of multiple point-to-point EVCs across as a single UNI?

- A. EPL
- B. EVPL
- C. EMS
- D. ERMS

Answer: B

QUESTION 88

Refer to the exhibit. Which two statements about the EEM applet configuration are true? (Choose two.)

```
event manager applet LARGECONFIG
  event cli pattern "show running-config" sync yes
  action 1.0 puts "Warning! This device has a VERY LARGE configuration
    and may take some time to process"
  action 1.1 puts newline "Do you wish to continue [Y/N]"
  action 1.2 gets response
  action 1.3 string toupper "$response"
  action 1.4 string match "$_string_result" "Y"
  action 2.0 if $_string_result eq 1
  action 2.1 cli command "enable"
  action 2.2 cli command "show running-config"
  action 2.3 puts $_cli_result
  action 2.4 cli command "exit"
  action 2.9 end
```

- A. The EEM applet runs before the CLI command is executed.
- B. The EEM applet runs after the CLI command is executed.
- C. The EEM applet requires a case-insensitive response.
- D. The running configuration is displayed only if the letter Y is entered at the CLI.

Answer: AD

Explanation:

sync

Indicates whether the policy should be executed synchronously before the CLI command executes.

If the yes keyword is specified, the policy will run synchronously with the CLI command.

If the no keyword is specified, the policy will run asynchronously with the CLI command.

nocase

(Optional) Specifies case insensitive comparison.

Here we see that the sync knob was enabled so A is correct. However, C is not correct as the nocase argument was not used, so the applet is configured to display the config only if a capital Y is issued.

<http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/eem/command/eem-crbook/eem-cr-a2.html>

QUESTION 89

Which technology can be used to prevent flooding of IPv6 multicast traffic on a switch?

- A. IGMP snooping
- B. IGMP filtering
- C. MLD snooping
- D. MLD filtering

Answer: C

QUESTION 90

Which variable in an EEM applet is set when you use the sync yes option?

- A. \$_cli_result
- B. \$_result
- C. \$_string_result
- D. \$_exit_status

Answer: D

QUESTION 91

Refer to the exhibit. Which two statements about the output are true? (Choose two.)

```
Flow export v5 is enabled for main cache
Export source and destination details :
VRF ID : Default
Destination(1) 10.5.206.250 (9995)
Version 5 flow records
Cache for prefix aggregation:
Flow export is disabled
53 flows exported in 18 udp datagrams
0 flows failed due to lack of export packet
0 export packets were sent up to process level
0 export packets were dropped due to no fib
0 export packets were dropped due to adjacency issues
0 export packets were dropped due to fragmentation failures
0 export packets were dropped due to encapsulation fixup failures
0 export packets were dropped enqueueing for the RP
0 export packets were dropped due to IPC rate limiting
0 export packets were dropped due to Card not being able to export
```

- A. It indicates that prefix aggregation cache export is enabled on the device.
- B. It was obtained with the show ip cache flow command.
- C. It indicates that the device is using NetFlow version 5.
- D. It indicates that the flows are being sent to a destination using an RFC1918 address.

Answer: CD

Explanation:

- C. The fourth line shows that Version 5 is being used.
- D. The third line shows that the destination server is 10.5.206.250, which of course is a private, RFC 1918 address.

QUESTION 92

Which two options are advantages of NetFlow version 9 over NetFlow version 5? (Choose two.)

- A. NetFlow version 9 adds support for IPv6 headers.
- B. NetFlow version 9 adds support for MPLS labels.
- C. NetFlow version 9 adds support for the Type of Service field.
- D. NetFlow version 9 adds support for ICMP types and codes.

Answer: AB

QUESTION 93

Which statement describes the function of the tracking object created by the track 10 ip route 192.168.99.0/24 reachability command?

- A. It tracks the reachability of route 192.168.99.0/24.
- B. It tracks the line protocol status of the interface on which route 192.168.99.0/24 is received.
- C. It tracks exactly 10 occurrences of route 192.168.99.0/24.
- D. It tracks the summary route 192.168.99.0/24 and all routes contained within.

Answer: A

QUESTION 94

Refer to the exhibit. Which VLANs are permitted to send frames out port FastEthernet0/1?

```
Switch#show interfaces fastEthernet0/1 switchport
Name: Fa0/1
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 3 (VLAN0003)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Trunking VLANs Enabled: 4-100
Pruning VLANs Enabled: 100-200
Capture Mode Disabled
Capture VLANs Allowed: ALL

Protected: false
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
Appliance trust: none
```

- A. 100 - 200
- B. 4 - 100
- C. 1 and 4 - 100
- D. 3 and 4 - 100

Answer: D

QUESTION 95

Which option is the default maximum age of the MAC address table?

- A. 300 seconds
- B. 500 seconds
- C. 1200 seconds
- D. 3600 seconds

Answer: A

QUESTION 96

Which statement about MSS is true?

- A. It is negotiated between sender and receiver.
- B. It is sent in all TCP packets.
- C. It is 20 bytes lower than MTU by default.
- D. It is sent in SYN packets.
- E. It is 28 bytes lower than MTU by default.

Answer: D

QUESTION 97

Which two methods change the IP MTU value for an interface? (Choose two.)

- A. Configure the default MTU.
- B. Configure the IP system MTU.
- C. Configure the interface MTU.
- D. Configure the interface IP MTU.

Answer: CD

QUESTION 98

Which implementation can cause packet loss when the network includes asymmetric routing paths?

- A. the use of ECMP routing
- B. the use of penultimate hop popping
- C. the use of Unicast RPF
- D. disabling Cisco Express Forwarding

Answer: C

QUESTION 99

Which two mechanisms can be used to eliminate Cisco Express Forwarding polarization? (Choose two.)

- A. alternating cost links
- B. the unique-ID/universal-ID algorithm
- C. Cisco Express Forwarding antipolarization
- D. different hashing inputs at each layer of the network

Answer: BD

QUESTION 100

Refer to the exhibit. What kind of load balancing is done on this router?

```
R101#show ip cache flow
```

[...]							
SrcIf	SrcIPaddress	DstIf	DstIPaddress	Pr	SrcP	DstP	Pkts
Et0/0	10.0.0.1	Et1/0*	14.0.0.2	01	0000	0800	34
Et0/0	10.0.0.1	Et1/0	14.0.0.2	01	0000	0800	100
Et0/0	10.0.0.1	Se3/0*	14.0.0.2	01	0000	0800	33
Et0/0	10.0.0.1	Se2/0*	14.0.0.2	01	0000	0800	33
Et0/0	10.0.0.1	Null	224.0.0.5	59	0000	0000	26

- A. per-packet load balancing
- B. per-flow load balancing
- C. per-label load balancing
- D. star round-robin load balancing

Answer: A

QUESTION 101

Which authentication method does OSPFv3 use to secure communication between neighbors?

- A. plaintext
- B. MD5 HMAC
- C. PKI
- D. IPSec

Answer: D

QUESTION 102

Which three statements are true about OSPFv3? (Choose three.)

- A. The only method to enable OSPFv3 on an interface is via the interface configuration mode.
- B. Multiple instances of OSPFv3 can be enabled on a single link.
- C. There are two methods to enable OSPFv3 on an interface, either via the interface configuration mode or via the router configuration mode.
- D. For OSPFv3 to function, IPv6 unicast routing must be enabled.
- E. For OSPFv3 to function, IPv6 must be enabled on the interface.
- F. Only one instance of OSPFv3 can be enabled on a single link.

Answer: BDE

QUESTION 103

Refer to the exhibit. Which statement is true?

```
P#show mpls forwarding-table
```

Local Label	Outgoing Label	Prefix or Tunnel Id	Bytes Label Switched	Outgoing interface	Next Hop
19	21	[mdt 1000:2000 0]	\		
			33516	Et2/0	10.1.2.2
	19	[mdt 1000:2000 0]	\		
			912	Et1/0	10.1.1.1
20	24	[mdt 1000:2000 0]	\		
			1932	Et3/0	10.1.3.3
	21	[mdt 1000:2000 0]	\		
			1932	Et2/0	10.1.2.2
23	24	[mdt 1000:2000 0]	\		
			33940	Et3/0	10.1.3.3
	19	[mdt 1000:2000 0]	\		
			912	Et1/0	10.1.1.1

- A. This is an MPLS TE point-to-multipoint LSP in an MPLS network.
- B. This is an MPLS TE multipoint-to-point LSP in an MPLS network.
- C. This is a point-to-multipoint LSP in an MPLS network.
- D. This is a multipoint-to-multipoint LSP in an MPLS network.

Answer: D

QUESTION 104

Which statement about OSPF multiaccess segments is true?

- A. The designated router is elected first.
- B. The designated and backup designated routers are elected at the same time.
- C. The router that sent the first hello message is elected first.
- D. The backup designated router is elected first.

Answer: D

QUESTION 105

Refer to the exhibit. Which statement is true?

```
R1#show mpls l2transport vc 100 detail
Local interface: Fa2/6 up, line protocol up, Ethernet up
  Destination address: 2.2.2.3, VC ID: 100, VC status: up
    Preferred path: Tunnel1, active
    Default path: ready
    Tunnel label: 12307, next hop point2point
    Output interface: Tu1, imposed label stack {12307 20}
  Create time: 00:00:11, last status change time: 00:00:11
  Signaling protocol: LDP, peer 2.2.2.3:0 up
    MPLS VC labels: local 21, remote 20
    Group ID: local 0, remote 2
    MTU: local 1500, remote 1500
    Remote interface description:
  Sequencing: receive disabled, send disabled
  VC statistics:
    packet totals: receive 1, send 6
    byte totals:   receive 368, send 0
    packet drops:  receive 0, send 0
```

- A. R1 routes this pseudowire over MPLS TE tunnel 1 with transport label 20.
- B. The default route 0.0.0.0/0 is available in the IPv4 routing table.
- C. R1 is using an MPLS TE tunnel for this pseudowire, because the IP path is not available.
- D. R1 has preferred-path configured for the pseudowire.

Answer: D

QUESTION 106

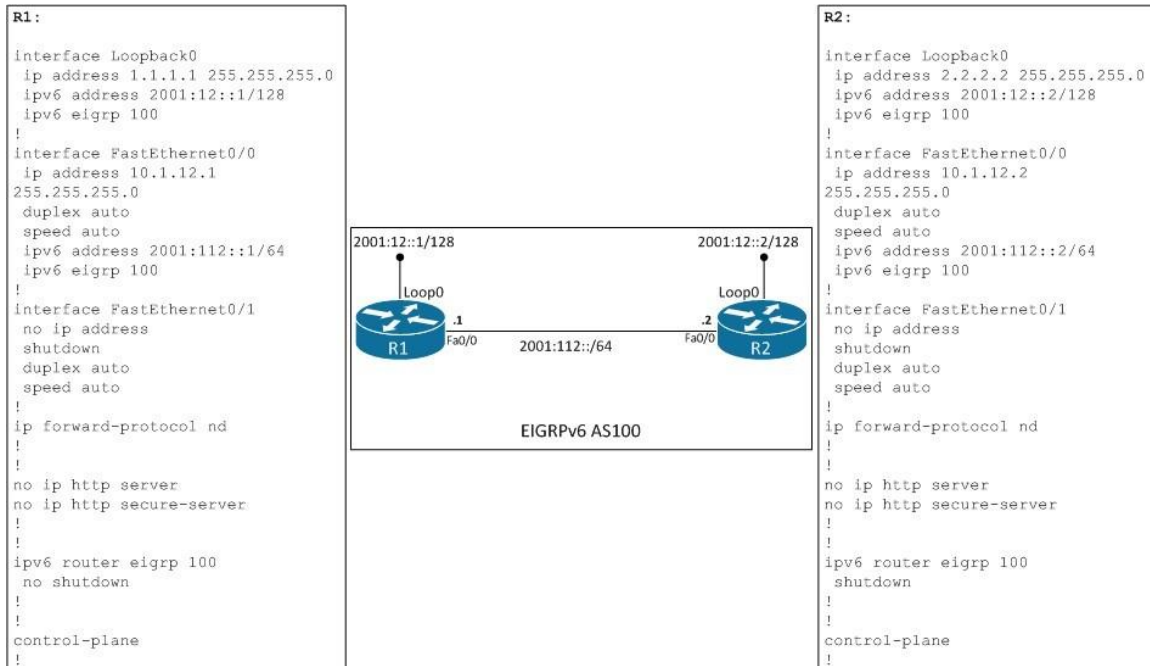
What are the minimal configuration steps that are required to configure EIGRP HMAC-SHA2 authentication?

- A. classic router mode, interface XX, authentication mode hmac-sha-256 <password>
- B. named router mode, address-family statement, authentication mode hmac-sha-256 <password>
- C. named router mode, address-family statement, af-interface default, authentication mode hmac-sha-256 <password>
- D. named router mode, address-family statement, authentication mode hmac-sha-256 <password>

Answer: C

QUESTION 107

Refer to the exhibit. How many EIGRP routes will appear in the routing table of R2?



- A. 0
- B. 1
- C. 2
- D. 3

Answer: A

QUESTION 108

For which kind of MPLS deployment is the next-hop-self all keyword used on a BGP neighbor command?

- A. 6VPE
- B. MPLS Carrier's carrier
- C. inter-AS MPLS VPN option D
- D. inter-AS MPLS VPN option C
- E. Unified MPLS

Answer: E

QUESTION 109

What is a reason for 6PE to use two MPLS labels in the data plane instead of one?

- A. 6PE allows penultimate hop popping and has a requirement that all P routers do not have to be IPv6 aware.
- B. 6PE does not allow penultimate hop popping.
- C. It allows MPLS traffic engineering to work in a 6PE network.
- D. It allows 6PE to work in an MPLS network where 6VPE is also deployed.

Answer: A

QUESTION 110

Which two configuration changes should be made on the OTP interface of an EIGRP OTP route reflector? (Choose two.)

- A. passive-interface
- B. no split-horizon
- C. no next-hop-self
- D. hello-interval 60, hold-time 180

Answer: BC

QUESTION 111

Which statement about the function of poison reverse in EIGRP is true?

- A. It tells peers to remove paths that previously might have pointed to this router.
- B. It tells peers to remove paths to save memory and bandwidth.
- C. It provides reverse path information for multicast routing.
- D. It tells peers that a prefix is no longer reachable.

Answer: A

QUESTION 112

What is the preferred method to improve neighbor loss detection in EIGRP?

- A. EIGRP natively detects neighbor down immediately, and no additional feature or configuration is required.
- B. BFD should be used on interfaces that support it for rapid neighbor loss detection.
- C. Fast hellos (subsecond) are preferred for EIGRP, so that it learns rapidly through its own mechanisms.
- D. Fast hellos (one-second hellos) are preferred for EIGRP, so that it learns rapidly through its own mechanisms.

Answer: B

QUESTION 113

How does EIGRP derive the metric for manual summary routes?

- A. It uses the best composite metric of any component route in the topology table.
- B. It uses the worst composite metric of any component route in the topology table.
- C. It uses the best metric vectors of all component routes in the topology table.
- D. It uses the worst metric vectors of all component routes in the topology table.

Answer: A

QUESTION 114

Refer to the exhibit. Which part of the joined group addresses list indicates that the interface has joined the EIGRP multicast group address?


```
R2#show ipv6 interface e0/0
Ethernet0/0 is up, line protocol is up
IPv6 is enabled, link-local address is FE80::A8BB:CCFF:FE00:200
No Virtual link-local address(es):
No global unicast address is configured
Joined group address(es):
  FF02::1
  FF02::2
  FF02::A
  FF02::1:FF00:200
```

- A. FF02::1
- B. FF02::1:FF00:200
- C. FF02::A
- D. FF02::2

Answer: C

QUESTION 115

Refer to the exhibit. Which two corrective actions could you take if EIGRP routes from R2 fail to reach R1? (Choose two.)

```
R1
!
ip vrf R2
rd 1:1
!
interface FastEthernet0/0
ip address 192.168.0.1 255.255.255.252
!
router eigrp 100
no auto-summary
address-family ipv4 vrf R2
network 192.168.0.0 0.0.0.255
!

R2
!
interface FastEthernet0/0
ip address 192.168.0.2 255.255.255.252
!
router eigrp 100
no auto-summary
network 192.168.0.2 0.0.0.1
!
```

- A. Configure R2 to use a VRF to send routes to R1.
- B. Configure the autonomous system in the EIGRP configuration of R1.
- C. Correct the network statement on R2.
- D. Add the interface on R1 that is connected to R2 into a VRF.

Answer: BD

QUESTION 116

EIGRP allows configuration of multiple MD5 keys for packet authentication to support easy rollover from an old key to a new key. Which two statements are true regarding the usage of multiple authentication keys? (Choose two.)

- A. Received packets are authenticated by the key with the smallest key ID.
- B. Sent packets are authenticated by all valid keys, which means that each packet is replicated as many times as the number of existing valid keys.
- C. Received packets are authenticated by any valid key that is chosen.
- D. Sent packets are authenticated by the key with the smallest key ID.

Answer: CD

QUESTION 117

Refer to the exhibit. Which additional configuration is necessary for R1 and R2 to become OSPF neighbors?

```
R1
!
interface FastEthernet0/0
ip address 10.1.1.5 255.255.255.0
!
router ospf 1
network 10.1.1.5 0.0.0.0 area 0
passive-interface default
!

R2
!
interface FastEthernet0/1
ip address 10.1.1.6 255.255.255.0
!
router ospf 10
network 10.1.1.6 0.0.0.0 area 0
!
```

- A. R1
!
router ospf 1
no passive-interface FastEthernet0/0
!
- B. R2
!
router ospf 10
no network 10.1.1.6 0.0.0.0 area 0
network 10.1.1.6 0.0.0.0 area 1
!
- C. R1
!
interface FastEthernet0/0

```
ip ospf mtu-ignore
!
R2
!
interface FastEthernet0/1
ip ospf mtu-ignore
!
D. R1
!
no router ospf 1
router ospf 10
network 10.1.1.5 0.0.0.0 area 0
```

Answer: A

QUESTION 118

Consider an OSPFv3 network with four parallel links between each pair of routers. Which measure can you use to reduce the CPU load and at the same time keep all links available for ECMP?

- A. Configure some interfaces as passive interface.
- B. Configure ipv6 ospf priority 0 on some interfaces.
- C. Configure some routers with a distribute list in ingress of the OSPFv3 process.
- D. Configure ipv6 ospf database-filter all out on some interfaces.

Answer: D

QUESTION 119

Refer to the exhibit. Which two statements about the device that generated the output are true? (Choose two.)

```
Load for five secs: 12%/0%; one minute: 4%; five minutes: 5%
Time source is NTP, 11:19:50.533 US/Ariz Tue Oct 1 2013

(10.10.76.191, 239.93.200.8), 7w0d/00:02:55, flags: sTI
  Incoming interface: TenGigabitEthernet8/2, RPF nbr 70.169.73.188, RPF-MFD
  Outgoing interface list:
    GigabitEthernet1/5, Forward/Sparse, 2w5d/00:02:25, H
    GigabitEthernet1/2, Forward/Sparse, 5w3d/00:02:25, H
    GigabitEthernet1/1, Forward/Sparse, 25w6d/00:02:49, H

(10.10.76.191, 239.93.200.9), 7w0d/00:02:55, flags: sTI
  Incoming interface: TenGigabitEthernet8/2, RPF nbr 70.169.73.188, RPF-MFD
  Outgoing interface list:
    GigabitEthernet1/5, Forward/Sparse, 2w5d/00:02:25, H
```

- A. The SPT-bit is set.
- B. The sparse-mode flag is set.
- C. The RP-bit is set.
- D. The source-specific host report was received.

Answer: AD

QUESTION 120

A service provider is deploying L2VPN LAN services in its MPLS cloud. Which statement is true regarding LDP signaling and autodiscovery?

- A. LDP signaling requires that each PE is identified, and that an LDP session is active with its P neighbor for autodiscovery to take place.
- B. LDP signaling requires that each P is identified, and that a targeted LDP session is active for autodiscovery to take place.
- C. LDP signaling requires that each PE is identified, and that a targeted LDP session with a BGP route reflector is active for autodiscovery to take place.
- D. LDP signaling requires that each PE is identified, and that a targeted LDP session is active for autodiscovery to take place.

Answer: D

QUESTION 121

Refer to the exhibit. Which three statements about the output are true? (Choose three.)

```
Switch#show ip mroute
IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected,
       L - Local, P - Pruned, R - RP-bit set, F - Register flag,
       T - SPT-bit set, J - Join SPT, M - MSDP created entry, E - Extranet,
       X - Proxy Join Timer Running, A - Candidate for MSDP Advertisement,
       U - URD, I - Received Source Specific Host Report,
       Z - Multicast Tunnel, z - MDT-data group sender,
       Y - Joined MDT-data group, y - Sending to MDT-data group,
       V - RD & Vector, v - Vector
Outgoing interface flags: H - Hardware switched, A - Assert winner
Timers: Uptime/Expires
Interface state: Interface, Next-Hop or VCD, State/Mode

(*, 239.192.1.1), 00:01:43/stopped, RP 10.210.150.1, flags: SJC
  Incoming interface: Null, RPF nbr 0.0.0.0
  Outgoing interface list:
    Vlan150, Forward/Sparse-Dense, 00:01:43/00:02:55

(10.210.168.132, 239.192.1.1), 00:00:25/00:02:38, flags: T
  Incoming interface: Port-channell, RPF nbr 10.85.20.20
  Outgoing interface list:
    Vlan150, Forward/Sparse-Dense, 00:00:25/00:02:34

(*, 224.0.1.40), 00:01:57/00:02:53, RP 10.210.150.1, flags: SJCL
  Incoming interface: Null, RPF nbr 0.0.0.0
  Outgoing interface list:
    Port-channell, Forward/Sparse-Dense, 00:01:09/00:03:18
    Vlan150, Forward/Sparse-Dense, 00:01:39/00:02:55
```

- A. This switch is currently receiving a multicast data stream that is being forwarded out VLAN 150.
- B. A multicast receiver has requested to join one or more of the multicast groups.
- C. Group 224.0.1.40 is a reserved address, and it should not be used for multicast user data transfer.

- D. One or more multicast groups are operating in PIM dense mode.
- E. One or more of the multicast data streams will be forwarded out to neighbor 10.85.20.20.
- F. Group 239.192.1.1 is a reserved address, and it should not be used for multicast user data transfer.

Answer: ABC

QUESTION 122

Which statement about the RPF interface in a BIDIR-PIM network is true?

- A. In a BIDIR-PIM network, the RPF interface is always the interface that is used to reach the PIM rendezvous point.
- B. In a BIDIR-PIM network, the RPF interface can be the interface that is used to reach the PIM rendezvous point or the interface that is used to reach the source.
- C. In a BIDIR-PIM network, the RPF interface is always the interface that is used to reach the source.
- D. There is no RPF interface concept in BIDIR-PIM networks.

Answer: A

QUESTION 123

Which technology is an application of MSDP, and provides load balancing and redundancy between the RPs?

- A. static RP
- B. PIM BSR
- C. auto RP
- D. anycast RP

Answer: D

QUESTION 124

Which two statements are true about IPv6 multicast? (Choose two.)

- A. Receivers interested in IPv6 multicast traffic use IGMPv6 to signal their interest in the IPv6 multicast group.
- B. The PIM router with the lowest IPv6 address becomes the DR for the LAN.
- C. An IPv6 multicast address is an IPv6 address that has a prefix of FF00::/8.
- D. The IPv6 all-routers multicast group is FF02:0:0:0:0:0:0:2.

Answer: CD

QUESTION 125

Refer to the exhibit. While configuring AAA with a local database, users can log in via Telnet, but receive the message "error in authentication" when they try to go into enable mode. Which action can solve this problem?

```
aaa new-model
aaa authentication login default local
username cisco privilege 15 password cisco

User Access Verification

Username: cisco
Password:

Router>en
% Error in authentication.

Router>
```

- A. Configure authorization to allow the enable command.
- B. Use aaa authentication login default enable to allow authentication when using the enable command.
- C. Verify whether an enable password has been configured.
- D. Use aaa authentication enable default enable to allow authentication when using the enable command.

Answer: C

QUESTION 126

Which attribute is not part of the BGP extended community when a PE creates a VPN-IPv4 route while running OSPF between PE-CE?

- A. OSPF domain identifier
- B. OSPF route type
- C. OSPF router ID
- D. MED
- E. OSPF network type

Answer: E

QUESTION 127

Which three factors does Cisco PfR use to calculate the best exit path? (Choose three.)

- A. quality of service
- B. packet size
- C. delay
- D. loss
- E. reachability
- F. administrative distance

Answer: CDE

QUESTION 128

What is a reason to use DHCPv6 on a network that uses SLAAC?

- A. to get a record of the IPs that are used by the clients
- B. to push DNS and other information to the clients
- C. no reason, because there is no need for DHCPv6 when using SLAAC
- D. because DHCPv6 can be used only in stateful mode with SLAAC to record the IPs of the clients
- E. because DHCPv6 can be used only in stateless mode with SLAAC to record the IPs of the clients
- F. because DHCPv6 is required to use first-hop security features on the switches

Answer: B

QUESTION 129

Which statement is true about Fast Link Pulses in Ethernet?

- A. They are used during collision detection.
- B. They are used only if the media type is optical.
- C. They are part of UniDirectional Link Detection.
- D. They are used during autonegotiation.

Answer: D

QUESTION 130

Which statement is true regarding UDLD and STP timers?

- A. The UDLD message timer should be two times the STP forward delay to prevent loops.
- B. UDLD and STP are unrelated features, and there is no relation between the timers.
- C. The timers need to be synced by using the spanning-tree udd-sync command.
- D. The timers should be set in such a way that UDLD is detected before the STP forward delay expires.

Answer: D

QUESTION 131

Which switching technology can be used to solve reliability problems in a switched network?

- A. fragment-free mode
- B. cut-through mode
- C. check mode
- D. store-and-forward mode

Answer: D

QUESTION 132

Refer to the exhibit. A PE router is configured with a policy map that contains the policer shown. The policy map is configured in the inbound direction of an interface facing a CE router. If the PE router receives 12Mb/s of traffic with the CoS value set to 7 on a 100-Mb/s interface from the CE router, what value of MPLS EXP is set when this traffic goes through the policer shown?

```
police cir percent 10 conform-action proceed exceed-action set-mpls-experimental-topmost 6
```

- A. 0
- B. 6
- C. 7
- D. 8

Answer: B

QUESTION 133

Drag and Drop Question

What is the correct order of the VSS initialization process? Drag the actions on the left to the correct initialization step on the right.	
bring up VSL links	initialization step 1
run VSLP	initialization step 2
preparse config	initialization step 3
run RRP	initialization step 4
continue system bootstrap	initialization step 5
interchassis SSO	initialization step 6

Answer:

What is the correct order of the VSS initialization process? Drag the actions on the left to the correct initialization step on the right.	
	preparse config
	bring up VSL links
	run VSLP
	run RRP
	interchassis SSO
	continue system bootstrap

QUESTION 134

Drag and Drop Question

Drag and drop the IPv6 address on the left to the correct IPv6 address type on the right.	
FF01::2	Link Local Unicast
FE80::2a5b::5	Global Unicast
FDF8:E5F3:83E4:FEAA::53	Multicast
2005:CA75:D095::5	Unique Local Unicast
F880:E6F4:B665::44	

Answer:

Drag and drop the IPv6 address on the left to the correct IPv6 address type on the right.	
	FE80:2a5b::5
	2005:CA75:D095::5
	FF01::2
	FDF8:E5F3:83E4:FEAA::53
F880:E6F4:B665::44	

QUESTION 135

Drag and Drop Question

Drag and drop the BGP attribute on the left to the correct category on the right.	
Originator ID	BGP Well-Known Mandatory Attribute
Community	Target
Local-Pref	Target
AS_path	BGP Well-Known Discretionary Attribute
Aggregator	Target
Next-Hop	BGP Optional Nontransitive Attribute
	Target

Answer:

Drag and drop the BGP attribute on the left to the correct category on the right.	
	BGP Well-Known Mandatory Attribute
Community	AS_path
	Next-Hop
	BGP Well-Known Discretionary Attribute
Aggregator	Local-Pref
	BGP Optional Nontransitive Attribute
	Originator ID

QUESTION 136

Drag and Drop Question

Encrypts the entire session	RADIUS
Uses less memory and CPU on a router	
Combines authentication and authorization	
Can limit router commands based on user groups	TACACS+

Answer:

	RADIUS
	Uses less memory and CPU on a router
	Combines authentication and authorization
	TACACS+
	Encrypts the entire session
	Can limit router commands based on user groups

QUESTION 137

Drag and Drop Question

Drag and drop the events on the left to display the correct sequence on the right when CoPP is enabled.

Drag and drop the events on the left to display the correct sequence on the right when CoPP is enabled.	
The packet gets forwarded to the switch CPU.	1
A packet enters the switch that is configured with CoPP on the ingress port.	2
The switch makes a routing or a switching decision, which determines whether or not the packet is destined for the control plane.	3
The port performs any applicable input port and QoS services.	4
Packets that are destined for the control plane are processed by CoPP and are dropped or delivered to the control plane according to each traffic class policy. Packets that have other destinations are forwarded normally.	5

Answer:

Drag and drop the events on the left to display the correct sequence on the right when CoPP is enabled.	
	A packet enters the switch that is configured with CoPP on the ingress port.
	The port performs any applicable input port and QoS services.
	The packet gets forwarded to the switch CPU.
	The switch makes a routing or a switching decision, which determines whether or not the packet is destined for the control plane.
	Packets that are destined for the control plane are processed by CoPP and are dropped or delivered to the control plane according to each traffic class policy. Packets that have other destinations are forwarded normally.

QUESTION 138

Drag and Drop Question

Drag and drop the QoS requirement on the left to the correct QoS technology on the right.	
Guarantees an amount of bandwidth	Police
Is an application classification	CBWFQ
Prioritizes real-time voice traffic	Shaping
Buffers bursting traffic	LLQ
Limits an amount of bandwidth	NBAR

Answer:

Drag and drop the QoS requirement on the left to the correct QoS technology on the right.	
	Limits an amount of bandwidth
	Guarantees an amount of bandwidth
	Buffers bursting traffic
	Prioritizes real-time voice traffic
	Is an application classification

QUESTION 139

Drag and Drop Question

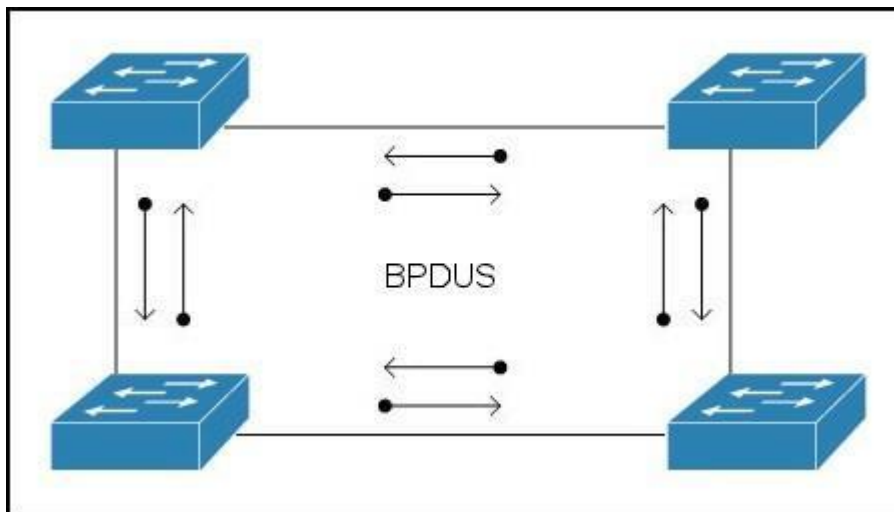
Drag and drop the IPv6 multicast feature or protocol on the left to the correct address space on the right.	
All nodes	FF02::D
All routers	FF02::6
EIGRP	FF02::2
PIM routers	FF02::A
RIP routers	FF02::1
OSPFv3 all DR routers	FF02::9

Answer:

Drag and drop the IPv6 multicast feature or protocol on the left to the correct address space on the right.	
	PIM routers
	OSPFv3 all DR routers
	All routers
	EIGRP
	All nodes
	RIP routers

QUESTION 140

Refer to the exhibit. Which technology does the use of bi-directional BPDUs on all ports in the topology support?



- A. RSTP
- B. MST
- C. Bridge Assurance
- D. Loop Guard
- E. Root Guard
- F. UDLD

Answer: C

QUESTION 141

Which three statements are true about PPP CHAP authentication? (Choose three.)

- A. PPP encapsulation must be enabled globally.
- B. The LCP phase must be complete and in closed state.
- C. The hostname used by a router for CHAP authentication cannot be changed.
- D. PPP encapsulation must be enabled on the interface.
- E. The LCP phase must be complete and in open state.
- F. By default, the router uses its hostname to identify itself to the peer.

Answer: DEF

QUESTION 142

Which two statements are true about an EPL? (Choose two.)

- A. It is a point-to-point Ethernet connection between a pair of NNIs.
- B. It allows for service multiplexing.
- C. It has a high degree of transparency.
- D. The EPL service is also referred to as E-line.

Answer: CD

QUESTION 143

Which two statements describe characteristics of HDLC on Cisco routers? (Choose two.)

- A. It supports multiple Layer 3 protocols.
- B. It supports multiplexing.
- C. It supports only synchronous interfaces.
- D. It supports authentication.

Answer: AC

QUESTION 144

Refer to the exhibit. What is the meaning of the asterisk (*) in the output?

```
R1#show ip mroute 232.1.1.1
IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected,
       L - Local, P - Pruned, R - RP-bit set, F - Register flag,
       T - SPT-bit set, J - Join SPT, M - MSDP created entry,
       X - Proxy Join Timer Running, A - Candidate for MSDP Advertisement,
       U - URD, I - Received Source Specific Host Report,
       Z - Multicast Tunnel, z - MDT-data group sender,
       Y - Joined MDT-data group, y - Sending to MDT-data group
Outgoing interface flags: H - Hardware switched, A - Assert winner
Timers: Uptime/Expires
Interface state: Interface, Next-Hop or VCD, State/Mode

(10.1.4.7, 232.1.1.1), 00:17:24/00:02:53, flags: sTI
Incoming interface: Ethernet1/0, RPF nbr 10.1.5.6*
Outgoing interface list:
  Loopback0, Forward/Sparse, 00:14:42/00:01:21
```

- A. PIM neighbor 10.1.5.6 is the RPF neighbor for the group 232.1.1.1 for the shared tree.
- B. PIM neighbor 10.1.5.6 is the one that is seen as the RPF neighbor when performing the command show ip rpf 10.1.4.7.
- C. PIM neighbor 10.1.5.6 is the winner of an assert mechanism.
- D. The RPF neighbor 10.1.5.6 is invalid.

Answer: C

QUESTION 145

Refer to the exhibit. What is the role of this multicast router?

```
Router#show ip pim tunnel
Tunnel0
  Type   : PIM Encap
  RP     : 10.1.100.2*
  Source : 10.1.100.2
Tunnel1*
  Type   : PIM Decap
  RP     : 10.1.100.2*
  Source : -
```

- A. a first-hop PIM router
- B. a last-hop PIM router
- C. a PIM rendezvous point
- D. a PIM inter-AS router

Answer: C

QUESTION 146

Refer to the exhibit. Which option explains why the forwarding address is set to 0.0.0.0 instead of 110.100.1.1?

```
interface Ethernet0/1
 ip address 110.100.1.4 255.255.255.0
 !
router ospf 100
 router-id 4.4.4.4
 redistribute static metric-type 1 subnets tag 704
 network 110.110.0.0 0.0.255.255 area 110
 !
ip route 192.168.10.0 255.255.255.0 Ethernet0/1 110.100.1.1
 !
```

External LSA:

OSPF Router with ID (4.4.4.4) (Process ID 100)

Type-5 AS External Link States

LS age: 101

Options: (No TOS-capability, DC, Upward)

LS Type: AS External Link

Link State ID: 192.168.10.0 (External Network Number)

Advertising Router: 4.4.4.4

LS Seq Number: 80000084

Checksum: 0x74E2

Length: 36

Network Mask: /24

Metric Type: 1 (Comparable directly to link state metric)

MTID: 0

Metric: 20

Forward Address: 0.0.0.0

External Route Tag: 704

- A. The interface Ethernet0/1 is in down state.
- B. The next-hop ip address 110.100.1.1 is not directly attached to the redistributing router.
- C. The next-hop interface (Ethernet0/1) is specified as part of the static route command; therefore, the forwarding address is always set to 0.0.0.0.
- D. OSPF is not enabled on the interface Ethernet0/1.

Answer: D

QUESTION 147

Refer to the exhibit. Which statement is true?

```
R1#show ipv6 route

C   2001:DB8::/64 [0/0]
    via Ethernet0/0, directly connected
L   2001:DB8::1/128 [0/0]
    via Ethernet0/0, receive
```

- A. 2001:DB8::1/128 is a local host route, and it can be redistributed into a dynamic routing protocol.
- B. 2001:DB8::1/128 is a local host route, and it cannot be redistributed into a dynamic routing protocol.
- C. 2001:DB8::1/128 is a local host route that was created because ipv6 unicast-routing is not enabled on this router.
- D. 2001:DB8::1/128 is a route that was put in the IPv6 routing table because one of this router's loopback interfaces has the IPv6 address 2001:DB8::1/128.

Answer: B

QUESTION 148

Refer to the exhibit. You have configured two routing protocols across this point-to-point link. How many BFD sessions will be established across this link?

```
Hub2#sh ip eigrp neighbors
EIGRP-IPv4 Neighbors for AS(123)
H   Address                  Interface      Hold Uptime    SRTT   RTO  Q  Seq
                               (sec)          (ms)        3000   0   1
0   192.168.0.2              Et0/3         11 01:49:56    1
Hub2#sh ip ospf neighbor

Neighbor ID    Pri  State       Dead Time   Address        Interface
192.168.0.2    1    FULL/DR     00:00:31    192.168.0.2    Ethernet0/3
```

- A. three per interface
- B. one per multicast address
- C. one per routing protocol
- D. one per interface

Answer: D

QUESTION 149

What is the most efficient way to confirm whether microbursts of traffic are occurring?

- A. Monitor the output traffic rate using the show interface command.
- B. Monitor the output traffic rate using the show controllers command.
- C. Check the CPU utilization of the router.
- D. Sniff the traffic and plot the packet rate over time.

Answer: D

QUESTION 150

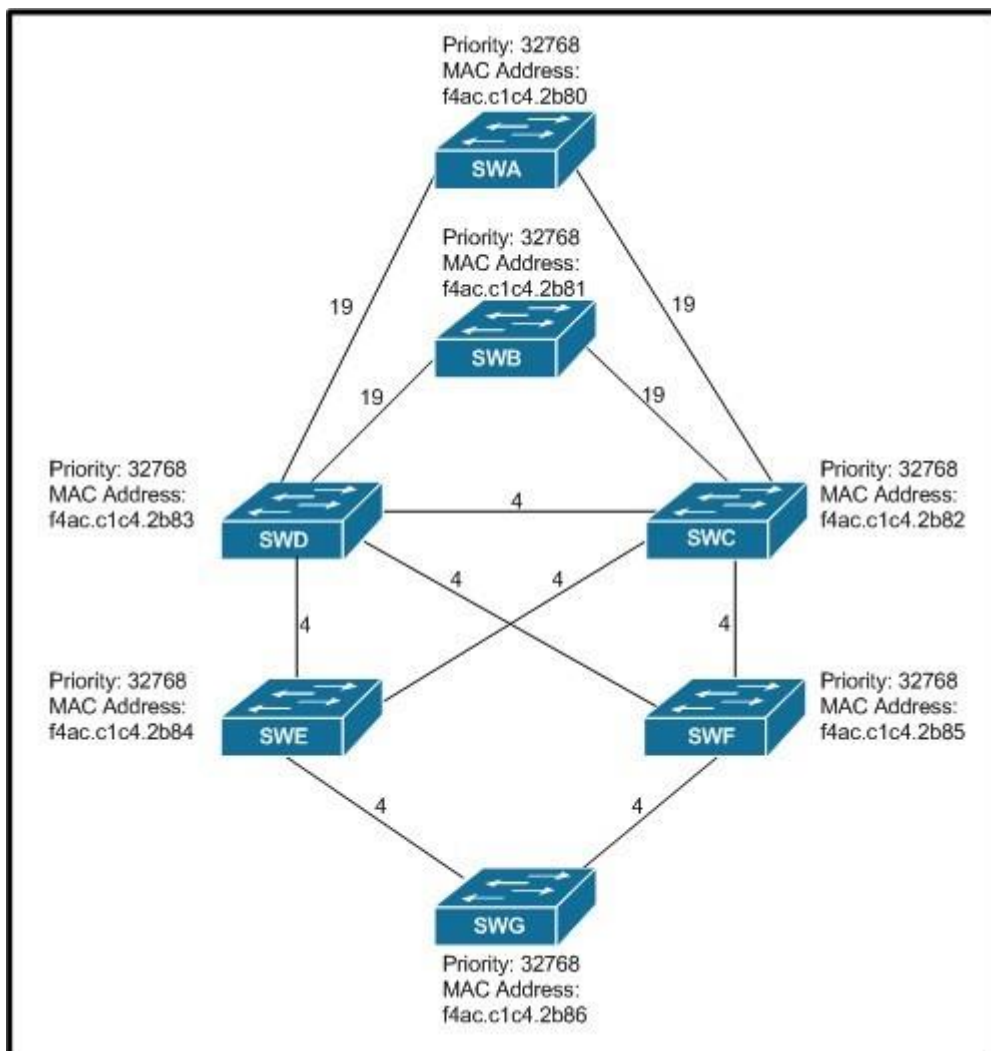
What is a cause for unicast flooding?

- A. Unicast flooding occurs when multicast traffic arrives on a Layer 2 switch that has directly connected multicast receivers.
- B. When PIM snooping is not enabled, unicast flooding occurs on the switch that interconnects the PIM-enabled routers.
- C. A man-in-the-middle attack can cause the ARP cache of an end host to have the wrong MAC address. Instead of having the MAC address of the default gateway, it has a MAC address of the man-in-the-middle. This causes all traffic to be unicast flooded through the man-in-the-middle, which can then sniff all packets.
- D. Forwarding table overflow prevents new MAC addresses from being learned, and packets destined to those MAC addresses are flooded until space becomes available in the forwarding table.

Answer: D

QUESTION 151

Refer to the exhibit. All switches have default bridge priorities, and originate BPDUs with MAC addresses as indicated. The numbers shown are STP link metrics. Which two ports are in blocking state after STP converges? (Choose two.)



- A. the port on switch SWD that connects to switch SWE
- B. the port on switch SWF that connects to switch SWG

- C. the port on switch SWD that connects to switch SWC
- D. the port on switch SWB that connects to switch SWD

Answer: CD

QUESTION 152

Which statement is true about IGMP?

- A. Multicast sources send IGMP messages to their first-hop router, which then generates a PIM join message that is then sent to the RP.
- B. Multicast receivers send IGMP messages to their first-hop router, which then forwards the IGMP messages to the RP.
- C. IGMP messages are encapsulated in PIM register messages and sent to the RP.
- D. Multicast receivers send IGMP messages to signal their interest to receive traffic for specific multicast groups.

Answer: D

QUESTION 153

What is a disadvantage of using aggressive mode instead of main mode for ISAKMP/IPsec establishment?

- A. It does not use Diffie-Hellman for secret exchange.
- B. It does not support dead peer detection.
- C. It does not support NAT traversal.
- D. It does not hide the identity of the peer.

Answer: D

QUESTION 154

What can PfR passive monitoring mode measure for TCP flows?

- A. only delay
- B. delay and packet loss
- C. delay and reachability
- D. delay, packet loss, and throughput
- E. delay, packet loss, throughput, and reachability

Answer: E

QUESTION 155

Which two statements are true about an EVPL? (Choose two.)

- A. It has a high degree of transparency.
- B. It does not allow for service multiplexing.
- C. The EVPL service is also referred to as E-line.
- D. It is a point-to-point Ethernet connection between a pair of UNIs.

Answer: CD

QUESTION 156

Which two statements are true about OTV? (Choose two.)

- A. It relies on flooding to propagate MAC address reachability information.
- B. It uses a full mesh of point-to-multipoint tunnels to prevent head-end replication of multicast traffic.
- C. It can work over any transport that can forward IP packets.
- D. It supports automatic detection of multihoming.

Answer: CD

QUESTION 157

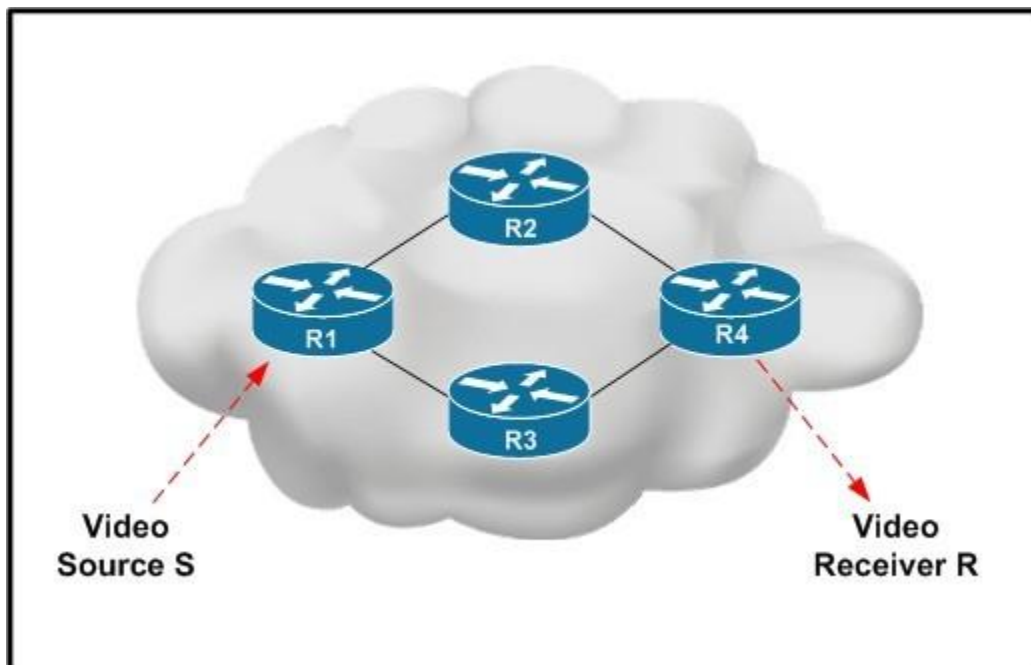
Which two statements are true about RSTP? (Choose two.)

- A. By default, RTSP uses a separate TCN BPDU when interoperating with 802.1D switches.
- B. By default, RTSP does not use a separate TCN BPDU when interoperating with 802.1D switches.
- C. If a designated port receives an inferior BPDU, it immediately triggers a reconfiguration.
- D. By default, RTSP uses the topology change TC flag.
- E. If a port receives a superior BPDU, it immediately replies with its own information, and no reconfiguration is triggered.

Answer: BD

QUESTION 158

Refer to the exhibit. Video Source S is sending interactive video traffic to Video Receiver R. Router R1 has multiple routing table entries for destination R. Which load-balancing mechanism on R1 can cause out-of-order video traffic to be received by destination R?



- A. per-flow load balancing on R1 for destination R

- B. per-source-destination pair load balancing on R1 for destination R
- C. CEF load balancing on R1 for destination R
- D. per-packet load balancing on R1 for destination R

Answer: D

QUESTION 159

Refer to the exhibit. Which two statements are true about the displayed STP state? (Choose two.)

```
switch#show spanning-tree detail

MST0 is executing the mstp compatible Spanning Tree protocol
Bridge Identifier has priority 32768, sysid 0, address f4ac.c1c4.2b80
Configured hello time 2, max age 20, forward delay 15, transmit hold-count 6
Current root has priority 24576, address 0019.07aa.9ac0
Root port is 56 (Port-channel1), cost of root path is 0
Topology change flag not set, detected flag not set
Number of topology changes 296 last change occurred 00:01:17 ago
      from GigabitEthernet0/15
```

- A. The STP version configured on the switch is IEEE 802.1w.
- B. Port-channel 1 is flapping and the last flap occurred 1 minute and 17 seconds ago.
- C. The switch does not have PortFast configured on Gi0/15.
- D. BPDUs with the TCN bit set are transmitted over port channel 1.

Answer: CD

QUESTION 160

Which two mechanisms provide Cisco IOS XE Software with control plane and data plane separation? (Choose two.)

- A. Forwarding and Feature Manager
- B. Forwarding Engine Driver
- C. Forwarding Performance Management
- D. Forwarding Information Base

Answer: AB

QUESTION 161

Refer to the exhibit. Which command is configured on this router?

```
R2# show bgp ipv4 unicast summary
BGP router identifier 10.100.1.2, local AS number 2
BGP table version is 1, main routing table version 1

Neighbor      V      AS MsgRcvd MsgSent  TblVer  InQ  OutQ  Up/Down  State/PfxRcd
10.100.1.1    4        1      0       0        1    0    0 6d20h   Idle (PfxCt)
```

- A. bgp update-delay 60
- B. neighbor 10.100.1.1 maximum-prefix 200
- C. neighbor 10.100.1.1 maximum-path 2
- D. neighbor 10.100.1.1 ebgp-multihop 2

Answer: B

QUESTION 162

What is the purpose of Route Target Constraint?

- A. to avoid using route reflectors in MPLS VPN networks
- B. to avoid using multiple route distinguishers per VPN in MPLS VPN networks
- C. to be able to implement VPLS with BGP signaling
- D. to avoid sending unnecessary BGP VPNv4 or VPNv6 updates to the PE router
- E. to avoid BGP having to perform route refreshes

Answer: D

QUESTION 163

Refer to the exhibit. Why is network 172.16.1.0/24 not installed in the routing table?

```
R3#sho ip bgp 172.16.1.0
BGP routing table entry for 172.16.1.0/24, version 5
Paths: (1 available, no best path)
Not advertised to any peer
Refresh Epoch 1
1
192.168.1.1 (inaccessible) from 192.168.2.1 (192.168.3.1)
Origin IGP, metric 0, localpref 100, valid, internal
rx pathid: 0x0, tx pathid: 0
```

- A. There is no ARP entry for 192.168.1.1.
- B. The router cannot ping 192.168.1.1.
- C. The neighbor 192.168.1.1 just timed out and BGP will flush this prefix the next time that the BGP scanner runs.
- D. There is no route for 192.168.1.1 in the routing table.

Answer: D

QUESTION 164

Which two statements about port ACLs are true? (Choose two.)

- A. Port ACLs are supported on physical interfaces and are configured on a Layer 2 interface on a switch.
- B. Port ACLs support both outbound and inbound traffic filtering.
- C. When it is applied to trunk ports, the port ACL filters only native VLAN traffic.
- D. When it is applied to a port with voice VLAN, the port ACL filters both voice and data VLAN traffic.

Answer: AD

QUESTION 165

Which two statements about private VLANs are true? (Choose two.)

- A. Only one isolated VLAN can be mapped to a primary VLAN.
- B. Only one community VLAN can be mapped to a primary VLAN.
- C. Multiple isolated VLANs can be mapped to a primary VLAN.
- D. Multiple community VLANs can be mapped to a primary VLAN.

Answer: AD

QUESTION 166

Refer to the exhibit. Which two statements are true? (Choose two.)

```
Routing Process "ospf 1" with ID 1.1.1.1
Start time: 1w5d, Time elapsed: 4d11h
Supports only single TOS(TOS0) routes
Supports opaque LSA
Supports Link-local Signaling (LLS)
Supports area transit capability
Router is not originating router-LSAs with maximum metric
Initial SPF schedule delay 5000 msecs
Minimum hold time between two consecutive SPF's 10000 msecs
Maximum wait time between two consecutive SPF's 10000 msecs
Incremental-SPF disabled
Minimum LSA interval 5 secs
Minimum LSA arrival 1000 msecs
LSA group pacing timer 240 secs
Interface flood pacing timer 33 msecs
Retransmission pacing timer 66 msecs
Number of external LSA 0. Checksum Sum 0x0000000
Number of opaque AS LSA 0. Checksum Sum 0x0000000
Number of DCbitless external and opaque AS LSA 0
Number of DoNotAge external and opaque AS LSA 0
Number of areas in this router is 1. 1 normal 0 stub 0 nssa
Number of areas transit capable is 0
External flood list length 0
IETF NSF helper support enabled
Cisco NSF helper support enabled
Reference bandwidth unit is 100 mbps
  Area BACKBONE(0)
    Number of interfaces in this area is 2 (1 loopback)
    Area has no authentication
    SPF algorithm last executed 00:00:11.176 ago
    SPF algorithm executed 7 times
    Area ranges are
    Number of LSA 3. Checksum Sum 0x0140E9
    Number of opaque link LSA 0. Checksum Sum 0x0000000
    Number of DCbitless LSA 0
    Number of indication LSA 0
    Number of DoNotAge LSA 0
    Flood list length 0
```

- A. This is the output of the show ip ospf command.

- B. This is the output of the show ip protocols command.
- C. This router is an ABR.
- D. This router is an ASBR.
- E. Authentication is not configured for the area.

Answer: AE

QUESTION 167

Refer to the exhibit. Why is the prefix 1.1.1.1/32 not present in the routing table of R1?

```
R1#show ip route 1.1.1.1
% Network not in table

R1#sho ip ospf database router 1.1.1.1

OSPF Router with ID (10.10.10.10) (Process ID 1)

Router Link States (Area 0)

  Adv Router is not-reachable
  LS age: 6
  Options: (No TOS-capability, DC)
  LS Type: Router Links
  Link State ID: 1.1.1.1
  Advertising Router: 1.1.1.1
  LS Seq Number: 80000003
  Checksum: 0x6889
  Length: 48
  Number of Links: 2

Link connected to: a Stub Network
(Link ID) Network/subnet number: 1.1.1.1
(Link Data) Network Mask: 255.255.255.255
  TOS 0 Metrics: 1

Link connected to: a Transit Network
(Link ID) Designated Router address: 10.1.1.0
(Link Data) Router Interface address: 10.1.1.1
  TOS 0 Metrics: 10

R1#sho ip ospf neighbor

Neighbor ID      Pri   State           Dead Time   Address        Interface
1.1.1.1          0    FULL/-         00:00:36   10.1.1.1       Ethernet0/0
```

- A. There is a duplicate router ID.
- B. There is a subnet mask mismatch on Ethernet0/0.
- C. The router LSA has an invalid checksum.
- D. There is an OSPF network type mismatch that causes the advertising router to be unreachable.

Answer: D

QUESTION 168

Consider a network that mixes link bandwidths from 128 kb/s to 40 Gb/s. Which value should be set for the OSPF reference bandwidth?

- A. Set a value of 128.

- B. Set a value of 40000.
- C. Set a manual OSPF cost on each interface.
- D. Use the default value.
- E. Set a value of 40000000.
- F. Set a value of 65535.

Answer: C

QUESTION 169

Which statement about a type 4 LSA in OSPF is true?

- A. It is an LSA that is originated by an ABR, that is flooded throughout the AS, and that describes a route to the ASBR.
- B. It is an LSA that is originated by an ASBR, that is flooded throughout the AS, and that describes a route to the ASBR.
- C. It is an LSA that is originated by an ASBR, that is flooded throughout the area, and that describes a route to the ASBR.
- D. It is an LSA that is originated by an ABR, that is flooded throughout the AS, and that describes a route to the ABR.
- E. It is an LSA that is originated by an ABR, that is flooded throughout the area, and that describes a route to the ASBR.

Answer: E

QUESTION 170

Refer to the exhibit. What is the PHB class on this flow?

R101#show ip cache verbose flow							
[...]							
SrcIf	SrcIPAddress	DstIf	DstIPAddress	Pr	TOS	Flgs	Pkts
Port Msk AS		Port Msk AS	NextHop			B/Pk	Active
Et0/0	10.0.0.1	Et1/0*	14.0.0.2	01	80	10	1
0000 /0 0		0800 /0 0	0.0.0.0			100	0.0

- A. EF
- B. none
- C. AF21
- D. CS4

Answer: D

QUESTION 171

Drag and Drop Question

Drag and drop the multicast protocol definition on the left to the correct default time interval on the right.

IGMPv2 query interval	30 seconds
IGMPv2 querier timeout	
IGMPv1 query interval	60 seconds
PIMv1 query interval	
IGMPv3 query interval	
	120 seconds

Answer:

Drag and drop the multicast protocol definition on the left to the correct default time interval on the right.

IGMPv2 query interval	30 seconds
IGMPv2 querier timeout	PIMv1 query interval
IGMPv1 query interval	60 seconds
PIMv1 query interval	IGMPv2 query interval
IGMPv3 query interval	IGMPv1 query interval
	IGMPv3 query interval
	120 seconds
	IGMPv2 querier timeout

QUESTION 172

Drag and Drop Question

Drag and drop the OSPF network type on the left to the correct traffic type category on the right.

Broadcast	Unicast
Nonbroadcast	
Point-to-Point	
Loopback	Multicast
Point-to-Multipoint	
Point-to-Multipoint Nonbroadcast	
	Stub

Answer:

Drag and drop the OSPF network type on the left to the correct traffic type category on the right.

	Unicast
	Nonbroadcast
	Point-to-Multipoint Nonbroadcast
	Multicast
	Broadcast
	Point-to-Point
	Point-to-Multipoint
	Stub
	Loopback

QUESTION 173

Refer to the exhibit. If you change the Spanning Tree Protocol from pvst to rapid-pvst, what is the effect on the interface Fa0/1 port state?

```
Switch#show spanning-tree
VLAN0001

Spanning tree enabled protocol ieee

Root ID    Priority    32769
  Address    001a.6d4b.c500
  This bridge is the root
  Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
  Address    001a.6d4b.c500
  Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
  Aging Time 15

Interface        Role Sts Cost      Prio.Nbr Type
-----
Fa0/1            Desg FWD 19       128.1    P2p
```

- A. It transitions to the listening state, and then the forwarding state.
- B. It transitions to the learning state and then the forwarding state.
- C. It transitions to the blocking state, then the learning state, and then the forwarding state.
- D. It transitions to the blocking state and then the forwarding state.

Answer: C

QUESTION 174

Refer to the exhibit. Which configuration is missing that would enable SSH access on a router that is running Cisco IOS XE Software?

```
interface GigabitEthernet0/0/0
 ip address 192.168.1.1 255.255.255.0
 !
 ip ssh version 2
 !
 ip access-list extended protect-ssh
  permit ip any any eq 22
 !
 line vty 0 4
  access-class protect-ssh in
  transport input ssh
```

- A. int Gig0/0/0
management-interface
- B. class-map ssh-class
match access-group protect-ssh
policy-map control-plane-in
class ssh-class
police 80000 conform transmit exceed drop
control-plane
service-policy input control-plane-in
- C. control-plane host
management-interface GigabitEthernet0/0/0 allow ssh
- D. interface Gig0/0/0
ip access-group protect-ssh in

Answer: C

QUESTION 175

Which two options are causes of out-of-order packets? (Choose two.)

- A. a routing loop
- B. a router in the packet flow path that is intermittently dropping packets
- C. high latency
- D. packets in a flow traversing multiple paths through the network
- E. some packets in a flow being process-switched and others being interrupt-switched on a transit router

Answer: DE

QUESTION 176

A TCP/IP host is able to transmit small amounts of data (typically less than 1500 bytes), but attempts to transmit larger amounts of data hang and then time out. What is the cause of this problem?

- A. A link is flapping between two intermediate devices.
- B. The processor of an intermediate router is averaging 90 percent utilization.
- C. A port on the switch that is connected to the TCP/IP host is duplicating traffic and sending it to a port that has a sniffer attached.

D. There is a PMTUD failure in the network path.

Answer: D

QUESTION 177

Refer to the exhibit. ICMP Echo requests from host A are not reaching the intended destination on host B. What is the problem?

```
Internet Protocol Version 4, Src: 10.149.4.110 (10.149.4.110), Dst: 192.168.3.1 (192.168.3.1)
  Version: 4
  Header length: 20 bytes
  Differentiated Services Field: 0x00 (DSCP 0x00: Default; ECN: 0x00: Not-ECT (Not ECN-Capable Transport))
  Total Length: 60
  Identification: 0x64ac (25772)
  Flags: 0x00
  Fragment offset: 0
  Time to live: 1
  Protocol: ICMP (1)
  Header checksum: 0x8269 [correct]
  Source: 10.149.4.110 (10.149.4.110)
  Destination: 192.168.3.1 (192.168.3.1)
Internet Control Message Protocol
  Type: 8 (Echo (ping) request)
  Code: 0
  Checksum: 0x4d3d [correct]
  Identifier (BE): 1 (0x0001)
  Identifier (LE): 256 (0x0100)
  Sequence number (BE): 30 (0x001e)
  Sequence number (LE): 7680 (0x1e00)
  Data (32 bytes)
0000  61 62 63 64 65 66 67 68 69 6a 6b 6c 6d 6e 6f 70  abcdefghijklmnop
0010  71 72 73 74 75 76 77 61 62 63 64 65 66 67 68 69  qrstuvwabcdefghi
      Data: 6162636465666768696a6b6c6d6e6f707172737475767761...
      [Length: 32]
```

- A. The ICMP payload is malformed.
- B. The ICMP Identifier (BE) is invalid.
- C. The negotiation of the connection failed.
- D. The packet is dropped at the next hop.
- E. The link is congested.

Answer: D

QUESTION 178

Refer to the exhibit. Which statement is true?

```
R101#show ip cache flow
[...]
SrcIf          SrcIPAddress      DstIf          DstIPAddress    Pr SrcP DstP  Pkts
Et0/0          10.0.0.1             Et0/0          15.0.0.2        01 0000 0800 2603
```

- A. It is impossible for the destination interface to equal the source interface.
- B. NAT on a stick is performed on interface Et0/0.
- C. There is a potential routing loop.
- D. This output represents a UDP flow or a TCP flow.

Answer: C

QUESTION 179

Which three conditions can cause excessive unicast flooding? (Choose three.)

- A. Asymmetric routing
- B. Repeated TCNs
- C. The use of HSRP
- D. Frames sent to FFFF.FFFF.FFFF
- E. MAC forwarding table overflow
- F. The use of Unicast Reverse Path Forwarding

Answer: ABE

QUESTION 180

Drag and Drop Question

Drag and drop the multicast protocol or feature on the left to the correct address space on the right.	
Auto-RP announcement	224.0.0.13
PIMv2	232.0.0.0/8
GLBP	224.0.1.40
Auto-RP discovery	224.0.0.102
Source Specific Multicast (SSM)	224.0.1.39

Answer:

Drag and drop the multicast protocol or feature on the left to the correct address space on the right.	
	PIMv2
	Source Specific Multicast (SSM)
	Auto-RP discovery
	GLBP
	Auto-RP announcement

QUESTION 181

Drag and Drop Question

Drag and drop the router preference on the left to the correct routing sequence (from most preferred to least preferred) on the right.

Drag and drop the router preference on the left to the correct routing sequence (from most preferred to least preferred) on the right.	
EBGP route	1
Static route	2
Most specific prefix	3
Directly connected route	4

Answer:

Drag and drop the router preference on the left to the correct routing sequence (from most preferred to least preferred) on the right.	
	Most specific prefix
	Directly connected route
	Static route
	EBGP route

QUESTION 182

Which congestion-avoidance or congestion-management technique can cause global synchronization?

- A. Tail drop
- B. Random early detection
- C. Weighted random early detection
- D. Weighted fair queuing

Answer: A

QUESTION 183

Which group of neighbors can be configured as a BGP peer group?

- A. a group of iBGP neighbors that have the same outbound route policies
- B. a group of iBGP and eBGP neighbors that have the same inbound distribute-list
- C. a group of eBGP neighbors in the same autonomous system that have different outbound route policies
- D. a group of iBGP neighbors that have different outbound route policies

Answer: A

QUESTION 184

Refer to the exhibit. Notice that debug ip bgp updates has been enabled. What can you conclude from the debug output?

```
BGP(0): 10.1.3.4 rcvd UPDATE w/ attr: nexthop 10.1.3.4, origin i,
metric 0, merged path 4, AS_PATH
BGP(0): 10.1.3.4 rcvd 10.100.1.1/32...duplicate ignored
```

- A. This is the result of the clear ip bgp 10.1.3.4 in command.
- B. This is the result of the clear ip bgp 10.1.3.4 out command.
- C. BGP neighbor 10.1.3.4 performed a graceful restart.
- D. BGP neighbor 10.1.3.4 established a new BGP session.

Answer: A

QUESTION 185

In the DiffServ model, which class represents the lowest priority with the lowest drop probability?

- A. AF11

- B. AF13
- C. AF41
- D. AF43

Answer: A

QUESTION 186

Which set of commands conditionally advertises 172.16.0.0/24 as long as 10.10.10.10/32 is in the routing table?

- A.
- ```
neighbor x.x.x.x advertise-map ADV exist-map EXT
route-map ADV
 match IP address prefix-list ADV
!
route-map EXT
 match IP address prefix-list EXT
!
ip prefix-list EXT permit 172.16.0.0/24
!
ip prefix-list ADV permit 10.10.10.10/32
```
- B.
- ```
neighbor x.x.x.x advertise-map ADV exist-map EXT
route-map ADV
  match IP address prefix-list ADV
!
route-map EXT
  match IP address prefix-list EXT
!
ip prefix-list ADV permit 172.16.0.0/24
!
ip prefix-list EXT permit 10.10.10.10/32
```
- C.
- ```
neighbor x.x.x.x advertise-map ADV
route-map ADV
 match IP address prefix-list ADV
 match IP address prefix-list EXT
!
ip prefix-list ADV permit 172.16.0.0/24
!
ip prefix-list EXT permit 10.10.10.10/32
```

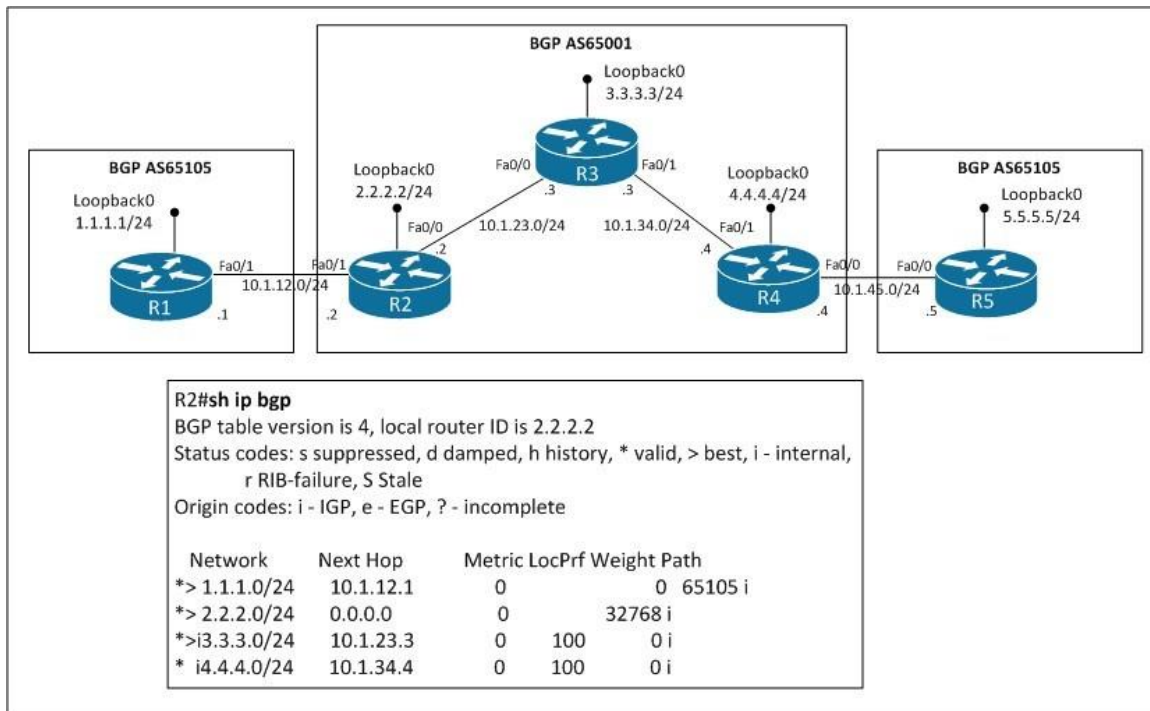
D.

```
neighbor x.x.x.x advertise-map ADV
route-map ADV
match IP address prefix-list ADV
match IP address prefix-list EXT
!
ip prefix-list ADV permit 172.16.0.0/24
!
ip prefix-list EXT permit 10.10.10.10/32
```

**Answer: B**

### QUESTION 187

Refer to the exhibit. Why is R2 unable to ping the loopback interface of R4?



- A. The local preference is too high.
- B. The weight is too low.
- C. The next hop is not reachable from R2.
- D. The route originated from within the same AS.

**Answer: C**

### QUESTION 188

Refer to the exhibit. Which two statements about the output are true? (Choose two.)

```
Switch# show spanning-tree vlan 1 detail

VLAN0001 is executing the ieee compatible Spanning Tree protocol
Bridge Identifier has priority 32768, sysid 1, address 0007.0e8f.04c0
Configured hello time 2, max age 20, forward delay 15
Current root has priority 8192, address 0007.4f1c.e847
Root port is 65 (GigabitEthernet2/1), cost of root path is 119
Topology change flag not set, detected flag not set
Number of topology changes 1 last change occurred 00:00:35 ago
 from GigabitEthernet1/1
Times: hold 1, topology change 35, notification 2
 hello 2, max age 20, forward delay 15
Timers: hello 0, topology change 0, notification 0, aging 300
```

- A. 802.1D spanning tree is being used.
- B. Setting the priority of this switch to 0 for VLAN 1 would cause it to become the new root.
- C. The hello, max-age, and forward delay timers are not set to their default values.
- D. Spanning-tree PortFast is enabled on GigabitEthernet1/1.

**Answer:** AB

#### QUESTION 189

Which statement about the BGP originator ID is true?

- A. The route reflector always sets the originator ID to its own router ID.
- B. The route reflector sets the originator ID to the router ID of the route reflector client that injects the route into the AS.
- C. The route reflector client that injects the route into the AS sets the originator ID to its own router ID.
- D. The originator ID is set to match the cluster ID.

**Answer:** B

#### QUESTION 190

Refer to the exhibit. Which two statements are true? (Choose two.)

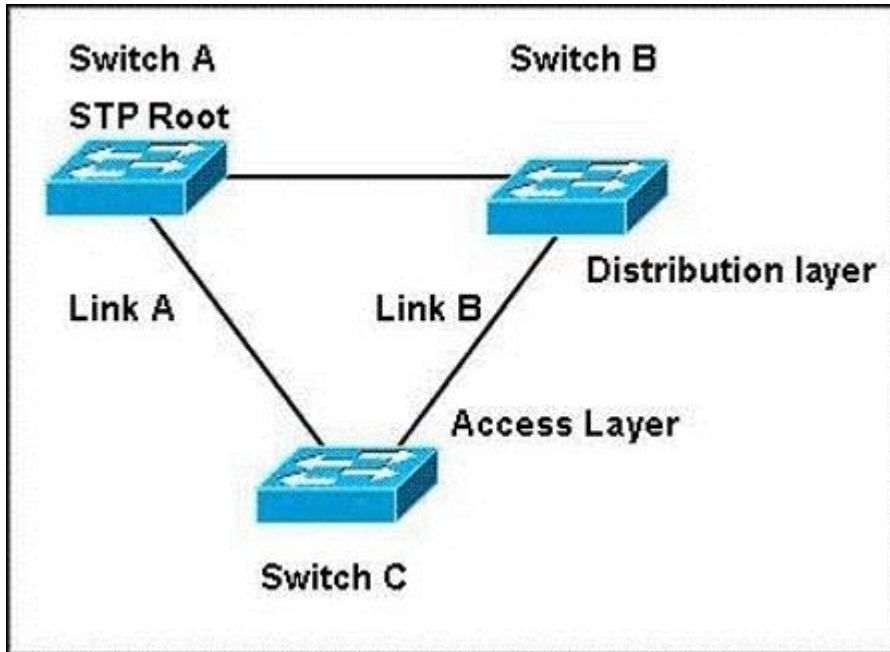
```
R5#show ip bgp
BGP table version is 24, local router ID is 10.100.1.5
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
 r RIB-failure, S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete
 Network Next Hop Metric LocPrf Weight Path
*> 10.100.1.1/32 10.1.1.1 0 100 0 65001 23456 2 i
r> 10.100.1.2/32 10.1.2.1 0 100 0 65001 23456 i
```

- A. This router is not 4-byte autonomous system aware.
- B. This router is 4-byte autonomous system aware.
- C. The prefix 10.100.1.1/32 was learned through an autonomous system number with a length of 4 bytes, and this router is 4-byte autonomous system aware.
- D. The prefix 10.100.1.1/32 was learned through an autonomous system number with a length of 4 bytes, and this router is not 4-byte autonomous system aware.
- E. The prefix 10.100.1.1/32 was originated from a 4-byte autonomous system.

**Answer:** AD

**QUESTION 191**

Refer to the exhibit. Spanning tree protocol is running on all three switches. The switches are configured so that Link A is the active link, and Link B is the standby link. There is a problem occurring where Switch B starts forwarding on Link B causing a routing loop.



What is the likely cause of the problem?

- A. PortFast is not enabled.
- B. There is a port duplex mismatch.
- C. MSTP is enabled without RSTP.
- D. A single instance of STP is enabled instead of PVST.

**Answer:** B

**QUESTION 192**

While troubleshooting a BGP neighborship, you notice that the neighborship is constantly going up and down. What is causing the neighbors to flap?

- A. The traffic-shaping and rate-limiting parameters are in correct.
- B. There is a BGP timer mismatch between both neighbors.
- C. There is a routing issue between both neighbors.
- D. A firewall is blocking TCP packets with port 179.
- E. There is a mismatch on the BGP update source between both neighbors.
- F. EBGP multihop has not been configured on the neighbors.

**Answer:** A

**QUESTION 193**

Refer to the exhibit. An EBGP session is not established between Router1 and Router2.

Router 1

```
interface Loopback0
 ip address 2.2.2.2 255.255.255.255
!
interface Serial1
 ip address 10.10.10.1 255.255.255.0
!
router bgp 300
 neighbor 1.1.1.1 remote-as 400
 neighbor 1.1.1.1 ebgp-multihop 2
 neighbor 1.1.1.1 update-source Loopback0
```

Router 2

```
interface Loopback0
 ip address 1.1.1.1 255.255.255.255
!
interface Serial0
 ip address 10.10.10.2 255.255.255.0
!
router bgp 400
 neighbor 2.2.2.2 remote-as 300
 neighbor 2.2.2.2 ebgp-multihop 2
 neighbor 2.2.2.2 update-source Loopback0
```

- A. The ebgp-multihop value must be increased to 3.
- B. A static route needs to be added on Router1 and Router2.
- C. The update-source loopback 0 command needs to be removed.
- D. Use the serial interface IP addresses in the neighbor command, but leave the update source pointing to loopback 0.

**Answer: B**

**QUESTION 194**

While troubleshooting OSPF issues on a broadcast network, the network administrator notices that some routers are stuck in two-way state.

What is the cause of this issue?

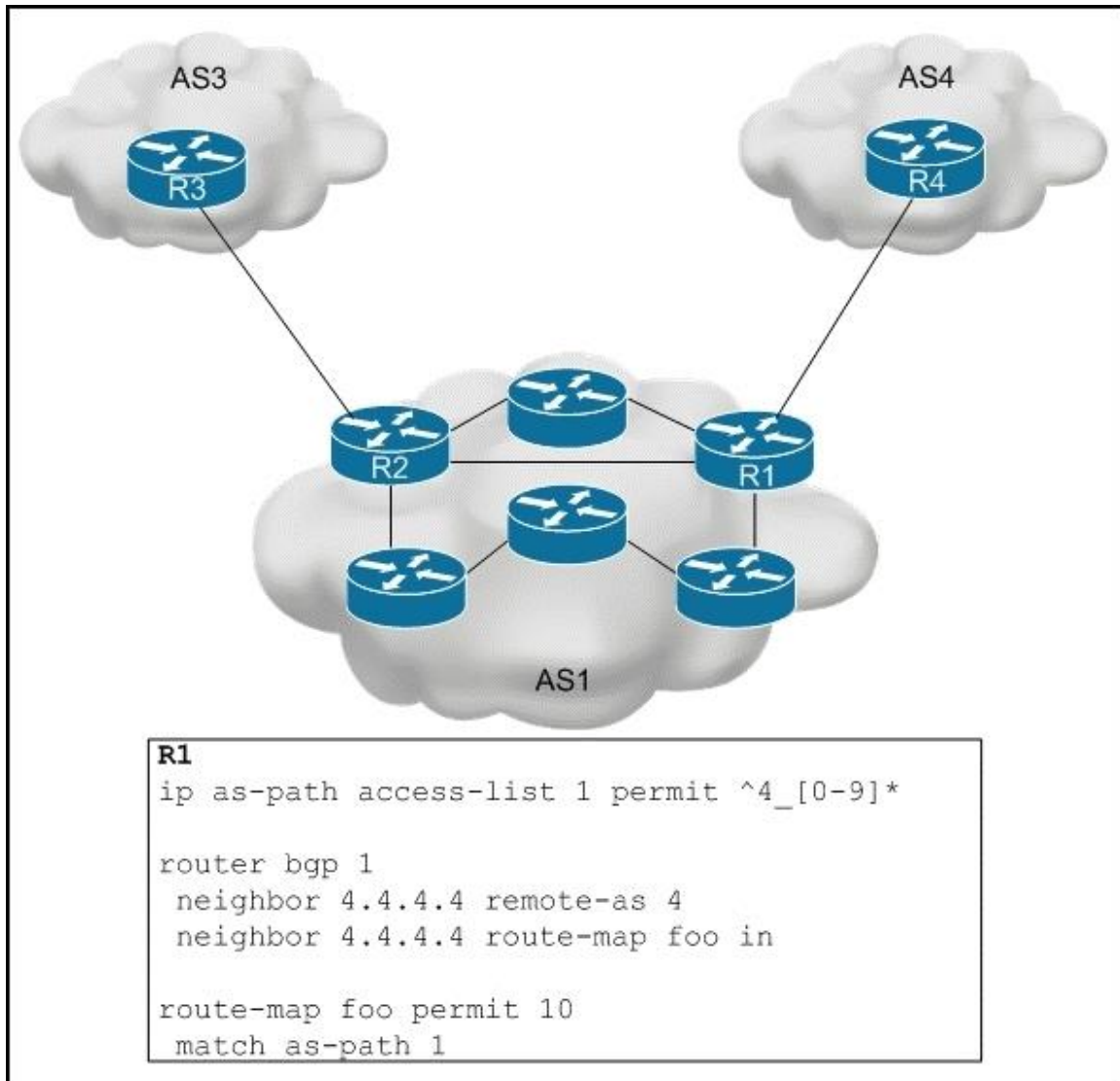
- A. This is normal on OSPF broadcast network types.
- B. The network type is configured incorrectly on these routers
- C. There is an MTU mismatch between these routers and their neighbors.
- D. This only happens to routers that have their OSPF priority set to 0.
- E. Hello packets are not being received on these routers.



Answer: A

**QUESTION 195**

Refer to the exhibit. You want to set up an AS path filter that allows networks that originated from AS4, and autonomous systems that are directly attached to AS4, to enter R1. When you tested the filter, you noticed that something was wrong with it.



How can this be solved?

- A. Change the regular expression to ^4\_0-9\*\$.
- B. Change the regular expression to ^4\_0-9+\$.
- C. Change the regular expression to ^4\_0-9.\*.
- D. Change the regular expression to ^4\_0-9.\$.

Answer: A



**QUESTION 196**

Refer to the exhibit. While troubleshooting performance issues on your network, you notice that CPU utilization on your Layer 3 Internet switch is very high.  
What can be done to solve this issue?

```
hostname SW1
!
ip subnet-zero
!
ip routing
!
spanning-tree extend system-id
!
interface FastEthernet0/1
 no ip address
!
!
!
interface FastEthernet0/48
 description To Internet_Router
 no switchport
 ip address 200.1.1.1 255.255.255.252
!
interface Vlan1
 no ip address
 shutdown
!
interface Vlan2
 description USER_VLAN
 ip address 10.1.2.1 255.255.255.0
!
interface Vlan3
 description SERVER_VLAN
 ip address 10.1.3.1 255.255.255.0
!
ip classless
!
ip route 0.0.0.0 0.0.0.0 FastEthernet0/48
!
line con 0
line vty 5 15
!
end
```

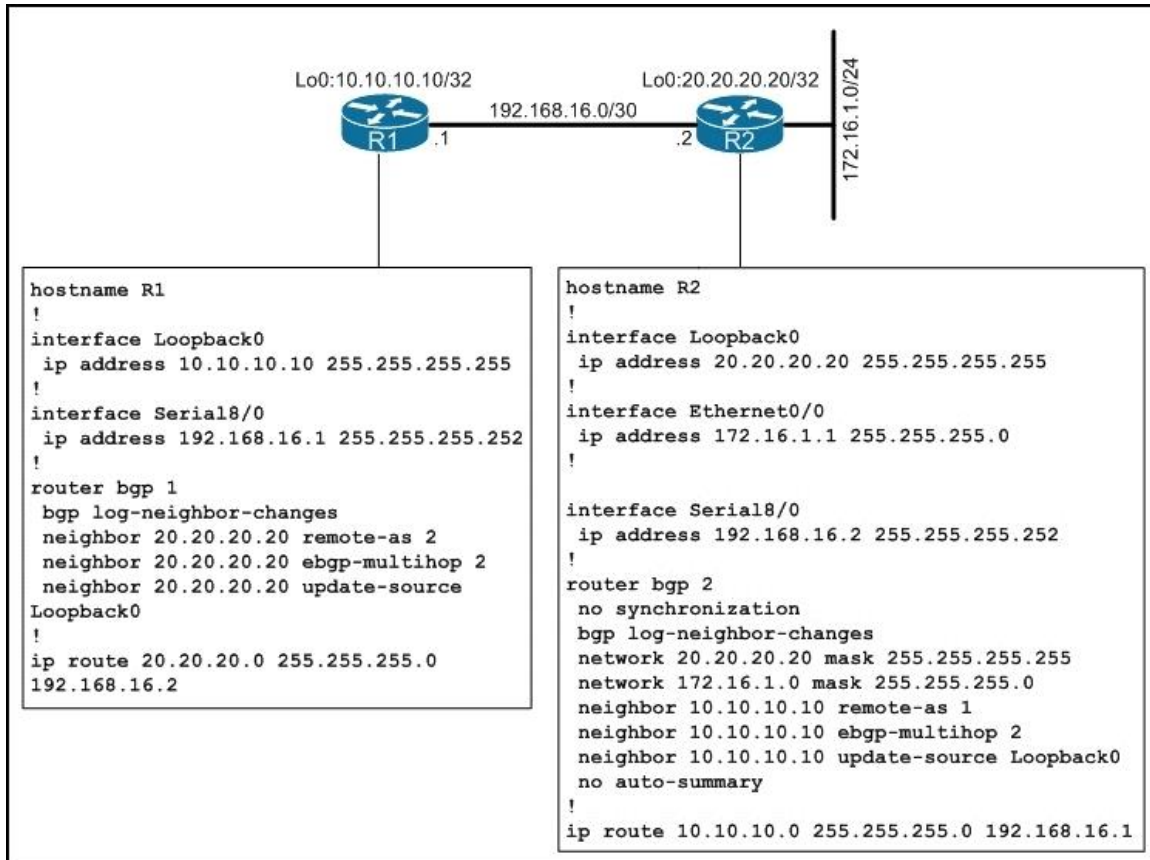
- A. Use an SVI instead of a routed port to connect to the Internet router.
- B. This is a capacity issue. Replace the switch with a high-performance Layer 3 switch.
- C. Point the default static route to an IP address instead of a physical interface.
- D. Configure CoPP on the Layer 3 switch.

**Answer: C**

### QUESTION 197

Refer to the exhibit. While troubleshooting BGP in this network, you notice that routes are constantly flapping on R1.

What can be done to solve this issue?



- A. Disable synchronization on R1 so that routes from R2 are installed in the routing table.
- B. Disable autosummary on R1 so that routes from R2 are installed in routing table.
- C. Increase the EBGp multihop count to 3.
- D. Replace the static route on R1 with a specific route to 20.20.20.0/32.

**Answer: D**

### QUESTION 198

While troubleshooting an OSPFv3 neighborhood between two routers on a Frame Relay network, you notice that there is a mapping issue.

Which mapping needs to be established for OSPFv3 to establish a neighborhood on Frame Relay?

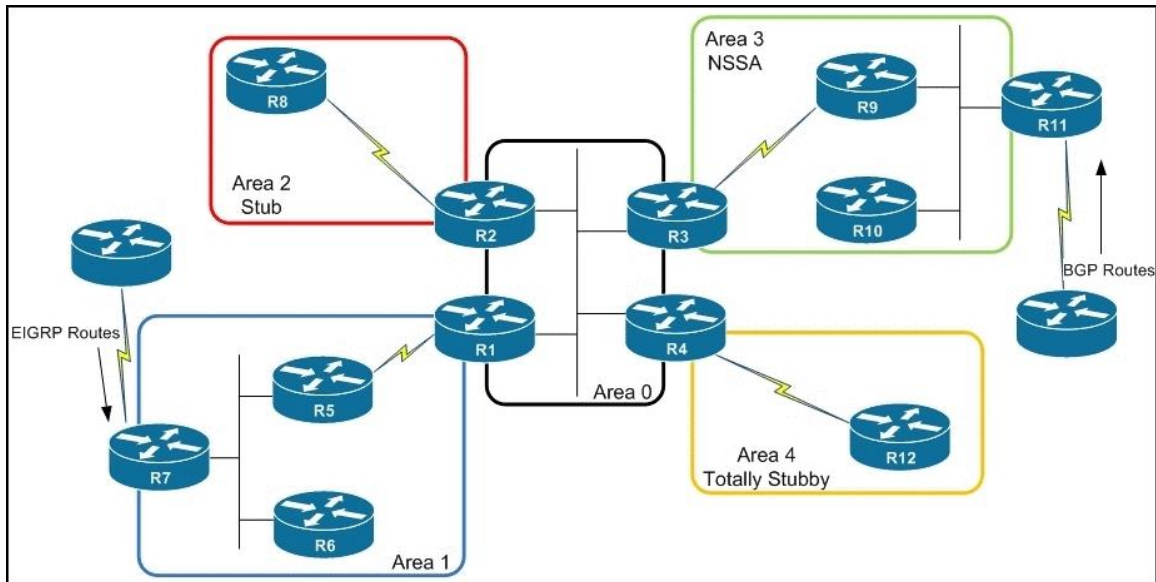
- A. The all routers multicast address needs to be mapped to the correct DLCI.
- B. The solicited node multicast address needs to be mapped to the correct DLCI.
- C. The neighbor's link-local address needs to be mapped to the correct DLCI.
- D. The all routers broadcast address needs to be mapped to the correct DLCI.

**Answer: C**

#### QUESTION 199

Refer to the exhibit. R10 in area 3 is not able to reach EIGRP routes that have been redistributed into OSPF on R7.

Which two actions can be taken to resolve this issue, while maintaining connectivity to BGP routes that are redistributed on r11? (Choose two)



- A. Change area 3 from NSSA to a stub area.
- B. Change area 3 from NSSA to a totally stubby area.
- C. Change area 3 from NSSA to a normal area.
- D. Change area 3 from NSSA to an NSSA totally stubby area.

**Answer:** CD

#### QUESTION 200

Refer to the exhibit. A host on the Internet (150.1.1.1) must be represented to the internal network as a local IP address. While testing, the configuration does not seem to work.

What is wrong?

```
ip nat inside source static 10.1.1.1 200.1.1.1
ip nat outside source static 10.1.1.100 150.1.1.1
!
interface Ethernet0/0
 ip address 10.1.1.10 255.255.255.0
 ip nat inside
!
interface Serial0/0
 ip address 120.16.2.1 255.255.255.0
 ip nat outside
!
ip route 10.1.1.100 255.255.255.255 120.16.2.2
```

- A. The nat inside translation is incorrect.
- B. The static route is incorrect.
- C. The nat outside translation is incorrect.
- D. Instead of source nat, destination nat should be used on the inside.
- E. The problem is not related to NAT configuration. The NAT configuration is correct.

**Answer: C**

#### **QUESTION 201**

Refer to the exhibit. A network engineer is trying to configure a router as a zone-based firewall and needs to allow DHCP traffic to and from the router on the outside interface. After applying the configuration to the router, he notices that his configuration is not working. What is wrong with the configuration?

```
access-list extended 111
 10 permit udp any any eq 68

access-list extended 112
 10 permit udp any any eq 67

class-map type inspect match-any self-to-out
 match access-group 111
class-map type inspect match-any out-to-self
 match access-group 112

zone security outside
zone security inside

interface Ethernet0/1
 zone-member security outside
interface Ethernet0/2
 zone-member security inside

policy-map type inspect out-to-self
 class type inspect out-to-self
 pass
 class class-default
 drop
policy-map type inspect self-to-out
 class type inspect self-to-out
 pass
 class class-default
 drop

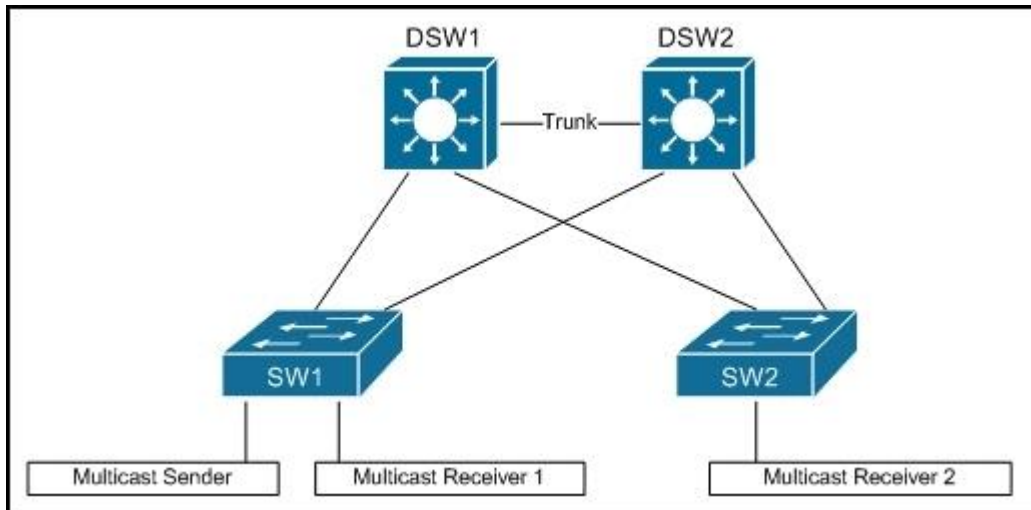
zone-pair security out-to-self source outside destination self
zone-pair security self-to-out source self destination outside
```

- A. The UDP ports in access list 111 and access list 112 are incorrect.
- B. The wrong action has been configured on the policy map.
- C. The zone pair configuration is incorrect.
- D. The inside and outside references are incorrect.

**Answer:** A

#### QUESTION 202

Refer to the exhibit. The multicast sender and both multicast receivers are in the same VLAN. Multicast receiver 1 can receive the multicast stream from the multicast sender, but multicast receiver 2 cannot receive this stream. While troubleshooting IGMP, it is noticed that the IGMP report from receiver 2 is received by switch 2 but not by switch 1. Which action will solve this issue?



- A. Enable PIM on the SVI of the VLAN on switch DSW1 or switch DSW2.
- B. Add a straight connection between switch SW1 and switch SW2.
- C. Enable IGMPv3 membership reports on multicast receiver 2.
- D. Configure a rendezvous point on distribution switch DSW1 and distribution switch DSW2.

**Answer:** A

#### QUESTION 203

Refer to the exhibit. A network engineer enables a new port channel between two switches. Both switches are configured for spanning-tree MST. What is causing the dispute message to appear on one of the switches?

```
%STP-2-DISPUTE_DETECTED: Dispute detected on port port-channel100
on VLAN0085.
```

- A. The switch received an IEEE 802.1D BPDU on that port.
- B. The BPDU that is received from the peer is inferior, with the designated role and state as learning or forwarding.
- C. The peer switch has been configured with a different VLAN instance mapping.
- D. The switch has received a malformed BPDU.

**Answer:** B

#### QUESTION 204

Which two Cisco IOS features can be used to defend against spoofing attacks? (Choose two.)

- A. auth-proxy
- B. lock-and-key ACL
- C. IP Source Guard
- D. TCP Intercept
- E. CAR
- F. uRPF
- G. reflexive ACL



**Answer:** CF

**QUESTION 205**

For which IP SLA test type is an IP SLA responder required on the target device?

- A. Path-echo
- B. Path-jitter
- C. An IP SLA responder is not required for any of these probes.
- D. Udp-echo
- E. Tcp-connect
- F. HTTP

**Answer:** C

**QUESTION 206**

Which action has the same effect as disabling spanning tree on a single switch port?

- A. Enable the PortFast feature on the interface
- B. Enable the BPDU guard feature on the interface?
- C. Enable the BPDU filter feature on the interface?
- D. Enable loop guard on the interface

**Answer:** C

**QUESTION 207**

On which port type would you configure STP PortFast BPDU guard?

- A. root ports
- B. designated ports
- C. host ports
- D. alternate ports

**Answer:** C

**QUESTION 208**

Refer to the exhibit. Which statement is correct?

```
Switch# show spanning-tree vlan 1 detail
```

```
VLAN0001 is executing the ieee compatible Spanning Tree protocol
Bridge Identifier has priority 32768, sysid 1, address
0007.0e8f.04c0 Configured hello time 2, max age 20, forward
delay 15 Current root has priority 8192, address 0007.4f1c.e847
Root port is 65 (GigabitEthernet2/1), cost of root path is 119
Topology change flag not set, detected flag not set
Number of topology changes 1 last change occurred 00:00:35 ago
 from GigabitEthernet1/1
Times: hold 1, topology change 35, notification 2
 hello 2, max age 20, forward delay 15
Timers: hello 0, topology change 0, notification 0, aging 300
```

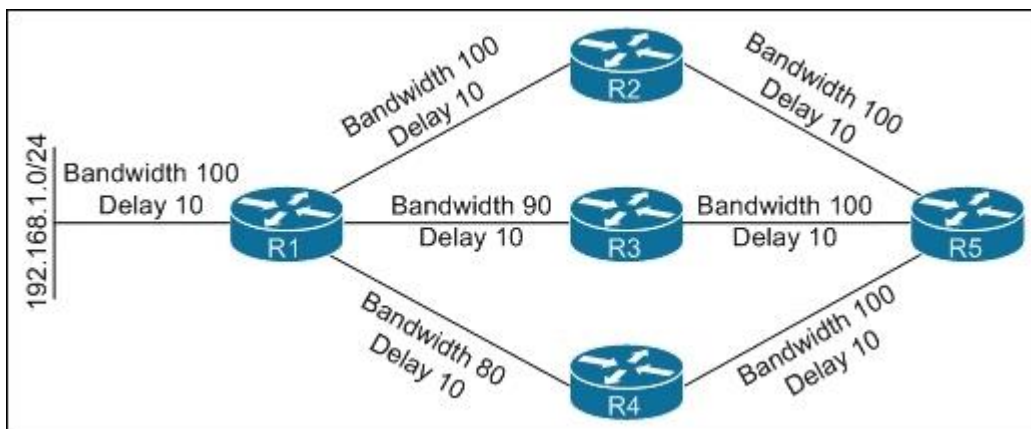
```
Switch#
```

- A. Setting the priority of this switch to 16384 for VLAN 1 would cause it to become the secondary root bridge.
- B. IEEE 802.1s spanning tree is being used.
- C. Spanning-tree PortFast should not be enabled on GigabitEthernet2/1.
- D. The spanning-tree timers are not set to their default values.

**Answer: C**

#### QUESTION 209

Refer to the exhibit. EIGRP has been configured on all routers in this network.  
Which EIGRP neighbor will R5 consider as the successor for network 192.168.1.0/24?



- A. R3 will be the successor for 192.168.1.0/24.
- B. R4 will be the successor for 192.168.1.0/24.
- C. R2 will be the successor for 192.168.1.0/24.
- D. There is not enough information to determine which neighbor will be considered as successor.
- E. R3 and R4 will both be a successor for 192.168.1.0/24.

**Answer: C**

#### QUESTION 210

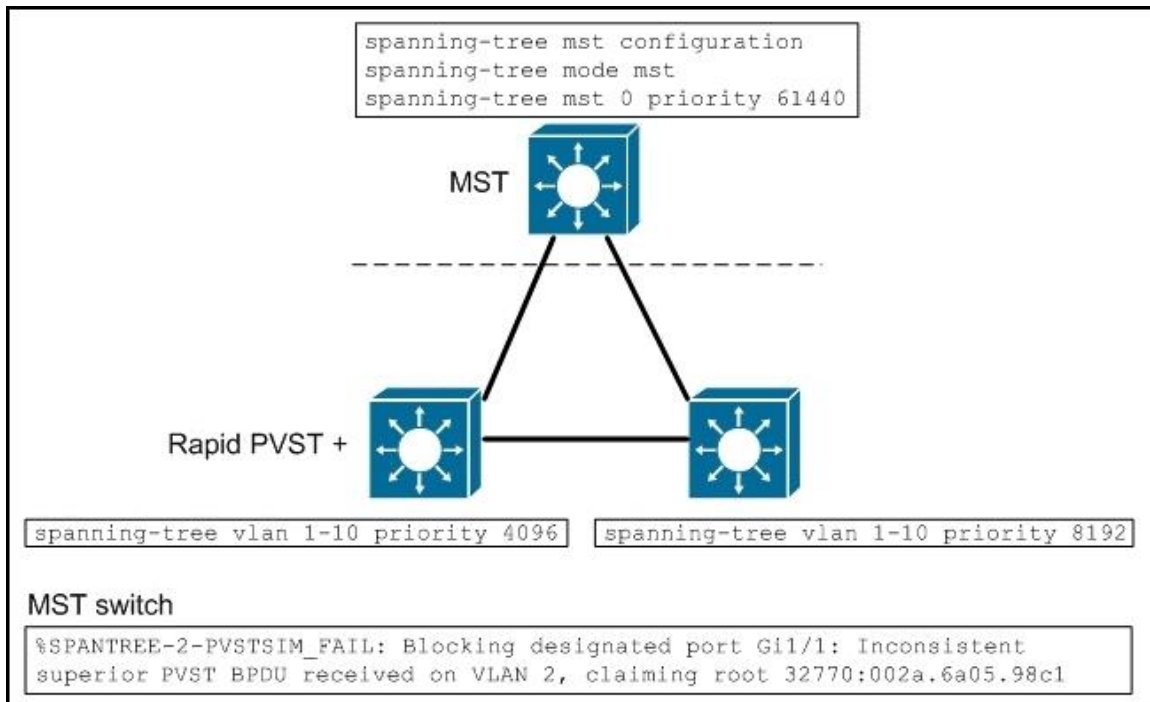
Which statement is correct about IPv6 RA guard?

- A. In host mode, all RA and router redirect messages are allowed on the port.
- B. The RA guard feature is supported only in the egress direction; it is not supported in the ingress direction.
- C. The RA guard feature is not supported on auxiliary VLANs and private VLANs.
- D. The RA guard feature compares configuration information on the Layer 2 device with the information in the received RA frame.

**Answer: D**

#### QUESTION 211

Refer to the exhibit. What is causing the error to occur on the MST switch?



- A. When a PVST+ switch is connected to an MST switch, the IST root (MST0) needs to be the root for all PVST+ spanning trees.
- B. When a PVST+ switch is connected to an MST switch, interaction between MST and PVST+ is not supported
- C. When a PVST+ switch is connected to an MST switch, root guard should be disabled on a per-port basis.
- D. When a PVST+ switch is connected to an MST switch, the PVST+ switch must be the root for all MST instances.

**Answer: A**

#### QUESTION 212

Which two commands are required to enable multicast on a router, when it is known that the receivers use a specific functionality of IGMPv3? (Choose two.)

- A. ip pim rp-address
- B. ip pim ssm
- C. ip pim sparse-mode
- D. ip pim passive

**Answer:** BC

#### QUESTION 213

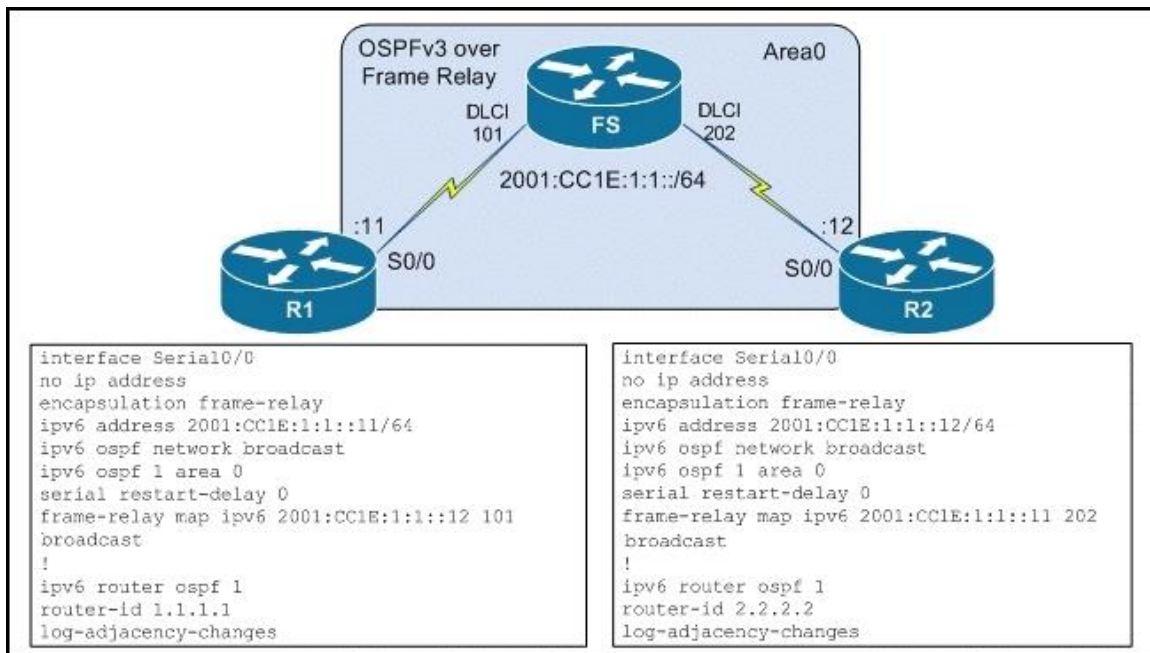
What are three causes for unicast flooding? (Choose three.)

- A. asymmetric routing
- B. duplex mismatch
- C. unidirectional link
- D. spanning-tree protocol topology changes
- E. forwarding table overflow
- F. hardware failure on a NIC
- G. routing loop

**Answer:** ADE

#### QUESTION 214

Refer to the exhibit. Based on the configuration, what will be the final OSPFv3 neighborhood state of R1 and R2?



- A. Both routers will be stuck in init state.
- B. Both routers will be stuck in two-way state.
- C. Both routers will be stuck in exstart/exchange state.
- D. Both routers will be in full (DR or BDR) state.

**Answer: C**

**QUESTION 215**

Refer to the exhibit. R4 is configured as an OSPF stub. Which action must be taken to avoid R4 from learning OSPF type 3 LSA inter-area routes from 209.165.202.130?

```
R4#show ip route
... *
Gateway of last resort is 209.165.202.130 to network 0.0.0.0

 209.165.200.0/28 is subnetted, 1 subnets
O IA 209.165.200.240
 [110/782] via 209.165.202.130, 00:35:27, FastEthernet0/0
 209.165.201.0/27 is subnetted, 1 subnets
O IA 209.165.201.0 [110/783] via 209.165.202.130, 00:35:27,
 FastEthernet0/0
 209.165.202.0/27 is subnetted, 1 subnets
C 209.165.202.128 is directly connected, FastEthernet0/0
O*IA 0.0.0.0/0 [110/2] via 209.165.202.130, 00:35:27,
 FastEthernet0/0
```

- A. Disable sending summary LSAs by adding no-summary to the stub command on the ABR.
- B. R4 must filter the incoming OSPF updates using route maps.
- C. Disable sending summary LSAs by adding no-summary to the stub command on the ASBR.
- D. Control of inter-area route propagation is best handled with EIGRP.

**Answer: A**

**QUESTION 216**

Which QoS mechanism will prevent a decrease in TCP performance?

- A. Shaper
- B. Policer
- C. WRED
- D. Rate-Limit
- E. LLQ
- F. Fair-Queue

**Answer: C**

**QUESTION 217**

What needs to be enabled for Unicast RPF?

- A. BGP
- B. OSPF
- C. CEF
- D. RIP

**Answer: C**

### QUESTION 218

Refer to the exhibit. Which interface(s) will show ip rpf 1.1.1.2 indicate as RPF interface(s)?

```
Router#sh ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
 D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
 ia - IS-IS inter area, * - candidate default, U - per-user static route
 o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

 1.0.0.0/32 is subnetted, 2 subnets
C 1.1.1.1 is directly connected, Loopback0
O 1.1.1.2 [110/11] via 3.3.3.2, 00:00:06, Ethernet1/0
 [110/11] via 2.2.2.2, 00:00:06, Ethernet0/0
 2.0.0.0/24 is subnetted, 1 subnets
C 2.2.2.0 is directly connected, Ethernet0/0
 3.0.0.0/24 is subnetted, 1 subnets
C 3.3.3.0 is directly connected, Ethernet1/0

Router#sh ip pim neighbor
PIM Neighbor Table
Mode: B - Bidir Capable, DR - Designated Router, N - Default DR Priority,
 S - State Refresh Capable
Neighbor Interface Uptime/Expires Ver DR
Address Prio/Mode
2.2.2.2 Ethernet0/0 00:21:13/00:01:43 v2 1 / DR S
3.3.3.2 Ethernet1/0 00:01:04/00:01:39 v2 1 / DR S
```

- A. Ethernet 1/0
- B. Ethernet 0/0
- C. Both Ethernet 0/0 and Ethernet 1/0
- D. RPF will fail

**Answer: A**

### QUESTION 219

In order to maintain security, with which hop count are IPv6 neighbor discovery packets sent?

- A. 0
- B. 1
- C. 255
- D. 256

**Answer: C**

### QUESTION 220

Which command will define a VRF with name 'CCIE' in IPv6?

- A. ip vrf CCIE
- B. ipv6 vrf CCIE
- C. vrf definition CCIE



D. ipv6 vrf definition CCIE

**Answer: C**

**Explanation:**

Vrf definition CCIE creates a multiprotocol VRF for both IPv4 and IPv6

#### QUESTION 221

Refer to the exhibit. R4 is unable to establish an EIGRP adjacency with R3, the only other router on the Fa0/0 LAN segment, although it is able to ping R3. An EIGRP debug on R4 does not provide any clues. What might be the cause of the problem?

```
R4#show ip protocols
Routing Protocol is "eigrp 100"
 Outgoing update filter list for all interfaces is not set
 Incoming update filter list for all interfaces is not set
 Default networks flagged in outgoing updates
 Default networks accepted from incoming updates
 EIGRP metric weight K1=1, K2=0, K3=1, K4=0, K5=0
 EIGRP maximum hopcount 100
 EIGRP maximum metric variance 1
 Redistributing: eigrp 100
 EIGRP NSF-aware route hold timer is 240s
 Automatic network summarization is not in effect
 Maximum path: 4
 Routing for Networks:
 209.165.202.128/27
 Passive Interface(s):
 FastEthernet0/0
 Routing Information Sources:
 Gateway Distance Last Update
 Distance: internal 90 external 170

R4#ping 209.165.202.139
Sending 5, 100-byte ICMP Echos to 209.165.202.139, timeout is 2 seconds:
!!!!

R3#show ip protocols
Routing Protocol is "eigrp 100"
 Outgoing update filter list for all interfaces not set
 Incoming update filter list for all interfaces not set
 Default networks flagged in outgoing updates
 Default networks accepted from incoming updates
 EIGRP metric weight K1=1, K2=0, K3=1, K4=0, K5=0
 EIGRP maximum hopcount 100
 EIGRP maximum metric variance 1
 Redistributing: static, eigrp 100
 EIGRP NSF-aware route hold timer is 240s
 Automatic network summarization is not in effect
 Maximum path: 4
 Routing for Networks:
 209.165.200.224/28
 209.165.202.128/28
 Routing Information Sources:
 Gateway Distance Last Update
 Distance: internal 90 external 170
```

- A. The passive interface has disabled the transmission of EIGRP multicast hello packets.
- B. EIGRP on R4 should be routing to network 209.165.202.128/28.
- C. The designated router/backup designated router (DR/BDR) selection requires that at least three routers are on a LAN.
- D. The routing metrics on R4 and R3 are different.

**Answer: A**

**Explanation:**

The passive-interface command disables the transmission and receipt of EIGRP hello packets on an interface. Unlike IGRP or RIP, EIGRP sends hello packets in order to form and sustain neighbor adjacencies. Without a neighbor adjacency, EIGRP cannot exchange routes with a neighbor. Therefore, the passive-interface command prevents the exchange of routes on the interface. Although EIGRP does not send or receive routing updates on an interface configured with the passive-interface command, it still includes the address of the interface in routing updates sent out of other non-passive interfaces.

#### QUESTION 222

Refer to the exhibit. The static route to 150.189.131.6 on R3 is intended to serve as the gateway of last resort for the EIGRP network. However, while R3 installs the gateway of last resort, its EIGRP neighbor R4 does not. What might explain the problem?

```

R3#show running-config
...
router eigrp 100
 network 209.165.200.224 0.0.0.31
 network 209.165.202.128 0.0.0.31
 no auto-summary
!
 ip route 0.0.0.0 0.0.0.0 150.189.131.6

R3#show ip route
...
Gateway of last resort is 150.189.131.6 to network 0.0.0.0

 209.165.200.0/27 is subnetted, 1 subnets
C 209.165.200.224 is directly connected, Serial0/0/0
 209.165.201.0/27 is subnetted, 1 subnets
D 209.165.201.0 [90/20560] via 209.165.200.242, Ser0/0/0
 209.165.202.0/27 is subnetted, 1 subnets
C 209.165.202.128 is directly connected, FastEthernet0/0
 150.189.0.0/24 is subnetted, 1 subnets
C 150.189.131.0 is directly connected, FastEthernet0/1
S* 0.0.0.0/0 [1/0] via 150.189.131.6

R4#show ip route
...
Gateway of last resort is not set

 209.165.200.0/27 is subnetted, 1 subnets
D 209.165.200.224 [90/20514560] via 209.165.202.139, Fa0/0
 209.165.201.0/27 is subnetted, 1 subnets
D 209.165.201.0 [90/20517120] via 209.165.202.139, Fa0/0
 209.165.202.0/27 is subnetted, 1 subnets
C 209.165.202.128 is directly connected, Fa0/0

```

- A. R3 is missing the global command ip default-network 150.189.131.6.
- B. Autosummary must be enabled on R3 in order for default-routes to be propagated.
- C. Default-networks must be configured individually on each EIGRP router.
- D. The static route on R3 must be redistributed into EIGRP.

**Answer: D**

**Explanation:**

[http://www.cisco.com/en/US/tech/tk365/technologies\\_tech\\_note09186a00800c2d96.shtml](http://www.cisco.com/en/US/tech/tk365/technologies_tech_note09186a00800c2d96.shtml) (see potential problems)

#### QUESTION 223

Refer to the exhibit. Which statement would explain why R4 and R3 are unable to build an EIGRP adjacency?

```

R4#show ip protocols
Routing Protocol is "eigrp 100"
 Outgoing update filter list for all interfaces is not set
 Incoming update filter list for all interfaces is not set
 Default networks flagged in outgoing updates
 Default networks accepted from incoming updates
 EIGRP metric weight K1=1, K2=0, K3=1, K4=0, K5=0
 EIGRP maximum hopcount 100
 EIGRP maximum metric variance 1
 Redistributing: eigrp 100
 EIGRP NSF-aware route hold timer is 240s
 Automatic network summarization is not in effect
 Maximum path: 4
 Routing for Networks:
 209.165.202.128/27
 Routing Information Sources:
 Gateway Distance Last Update
 Distance: internal 90 external 170

R3#show ip protocols
Routing Protocol is "eigrp 100"
 Outgoing update filter list for all interfaces is not set
 Incoming update filter list for all interfaces is not set
 Default networks flagged in outgoing updates
 Default networks accepted from incoming updates
 EIGRP metric weight K1=1, K2=255, K3=1, K4=0, K5=0
 EIGRP maximum hopcount 100
 EIGRP maximum metric variance 1
 Redistributing: eigrp 100
 EIGRP NSF-aware route hold timer is 240s
 Automatic network summarization is not in effect
 Maximum path: 4
 Routing for Networks:
 209.165.200.224/28
 209.165.202.128/28
 Routing Information Sources:
 Gateway Distance Last Update
 Distance: internal 90 external 170

```

- A. The network masks on R4 (209.165.202.128/27) and R3 (209.165.202.128/28) are different.
- B. The local EIGRP process on R4 and R3 are the same (but they must be unique).
- C. The routing metrics on R4 and R3 are different.
- D. R4 is not routing for the network 209.165.200.224/28.

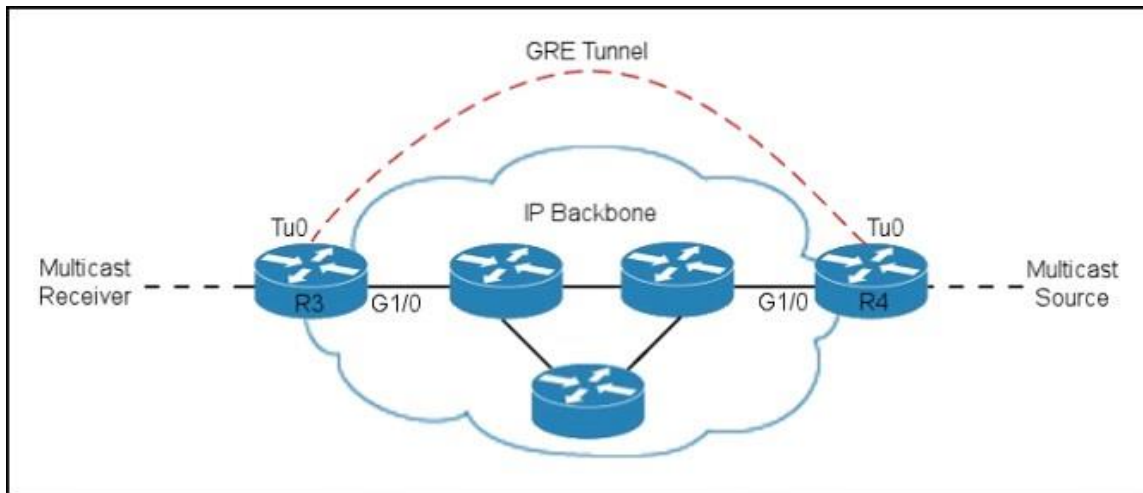
**Answer: C**

**Explanation:**

<http://packetlife.net/blog/2010/aug/9/eigrp-feasible-successor-routes/>

#### QUESTION 224

Refer to the exhibit. A tunnel is configured between R3 to R4 sourced with their loopback interfaces. The ip pim sparse-dense mode command is configured on the tunnel interfaces and multicast-routing is enabled on R3 and R4. The IP backbone is not configured for multicast routing.



The RPF check has failed toward the multicast source.  
Which two conditions could have caused the failure? (Choose two.)

- A. The route back to the RP is through a different interface than tunnel 0.
- B. The backbone devices can only route unicast traffic.
- C. The route back to the RP is through the same tunnel interface.
- D. A static route that points the RP to GigabitEthernet1/0 is configured.

**Answer: AD**

#### QUESTION 225

Which option is the default number of routes over which EIGRP can load balance?

- A. 1
- B. 4
- C. 8
- D. 16

**Answer: B**

#### QUESTION 226

When EIGRP is used as the IPv4 PE-CE protocol, which two requirements must be configured before the BGP IPv4 address family can be configured? (Choose two.)

- A. the route distinguisher
- B. the virtual routing and forwarding instance
- C. the loopback interface
- D. the router ID

**Answer: AB**

**QUESTION 227**

Which three EIGRP packet types are valid? (Choose three.)

- A. open
- B. notification
- C. keep-alive
- D. hello
- E. query
- F. reply

**Answer:** DEF

**QUESTION 228**

Which term describes an EIGRP route that has feasible successors?

- A. active
- B. passive
- C. redistributed
- D. invalid

**Answer:** B

**QUESTION 229**

Refer to the exhibit. If EIGRP is configured between two routers as shown in this output, which statement about their EIGRP relationship is true?

```
Routing Protocol is "eigrp 1"
 Outgoing update filter list for all interfaces is not set
 Incoming update filter list for all interfaces is not set
 Default networks flagged in outgoing updates
 Default networks accepted from incoming updates
 EIGRP metric weight K1=1, K2=0, K3=1, K4=1, K5=0
 EIGRP maximum hopcount 100
 EIGRP maximum metric variance 1
 Redistributing: eigrp 1
 EIGRP NSF-aware route hold timer is 240s
 Automatic network summarization is not in effect
 Maximum path: 4
 Routing for Networks:
 10.1.24.0/24
 10.1.34.0/24
 Routing Information Sources:
 Gateway Distance Last Update
 10.1.24.2 90 00:00:28
 10.1.34.3 90 00:00:28
 Distance: internal 90 external 170
```

- A. The routers will establish an EIGRP relationship successfully.

- B. The routers are using different authentication key-strings.
- C. The reliability metric is enabled.
- D. The delay metric is disabled.

**Answer: C**

**QUESTION 230**

Which type of OSPF packet is an OSPF link state update packet?

- A. type 1
- B. type 2
- C. type 3
- D. type 4
- E. type 5

**Answer: D**

**QUESTION 231**

If two OSPF type 3 prefixes have the same metric, and are within the same process, which prefix(es) are installed into the routing table?

- A. The route whose originator has the lower router ID.
- B. Both routes are installed.
- C. The route whose originator has the higher router ID.
- D. The first route that is learned.

**Answer: B**

**QUESTION 232**

Which OSPF feature supports LSA rate limiting in milliseconds to provide faster convergence?

- A. LSA throttling
- B. incremental SPF
- C. fast hello
- D. SPF tuning

**Answer: A**

**QUESTION 233**

Which two options are BGP attributes that are updated when router sends an update to its eBGP peer? (Choose two.)

- A. weight
- B. local preference
- C. AS\_path
- D. next-hop

**Answer: CD**

**QUESTION 234**

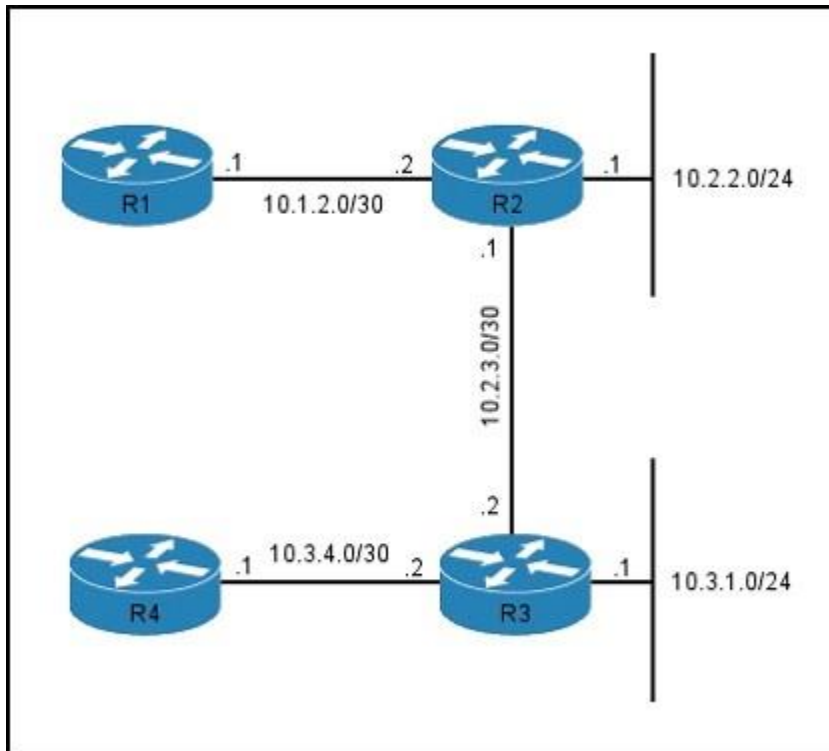
Which BGP aggregate address configuration advertises only the aggregate address, with attributes inherited from the more specific routes?

- A. summary-only as-set
- B. as-set
- C. summary
- D. summary-only

**Answer: A**

**QUESTION 235**

Refer to the exhibit. If ISIS is configured utilizing default metrics, what is the cost for Router 4 to reach the 10.2.2.0/24 network?



- A. 1
- B. 20
- C. 30
- D. 63

**Answer: C**

**QUESTION 236**

Refer to the exhibit. Which three statements about this configuration are true? (Choose three.)



```
ip route vrf red 0.0.0.0 0.0.0.0 192.168.1.1 global
```

- A. The default route appears in the global routing table.
- B. The static route appears in the VRF red routing table.
- C. The subnet 192.168.1.0 is unique to the VRF red routing table.
- D. The static route is added to the global routing table and leaked from the VRF red.
- E. The subnet 192.168.1.0 is unique to the global routing table.
- F. 192.168.1.1 is reachable using any of the addresses on the router where the static route is configured.

**Answer:** ABE

#### QUESTION 237

Refer to the exhibit. Which route type is displayed when you enter the command show ip route supernets-only on a device with this configuration?

```
ip route 10.0.0.0 255.255.255.0 192.168.1.2
interface loopback0
 ip address 10.0.0.1 255.255.255.0
router rip
 network 10.0.0.0
router eigrp 1
 network 10.0.0.0
router ospf 1
 network 10.0.0.0 0.0.0.255 area 0
```

- A. Connected
- B. OSPF
- C. RIP
- D. EIGRP
- E. An empty route set

**Answer:** E

#### QUESTION 238

Which statement about passive interfaces is true?

- A. The interface with the OSPF passive interface configuration appears as a not-so-stubby network.
- B. The interface with the EIGRP passive interface configuration ignores routes after the exchange of hello packets.
- C. The interface with the IS-IS passive interface configuration sends the IP address of that interface in the link-state protocol data units.
- D. Passive interface can be configured on the interface for IS-IS.

**Answer:** C

#### QUESTION 239

Refer to the exhibit. Which two routes are included in the route update? (Choose two.)

```
access-list 1 permit 10.3.5.0 0.0.3.255
router eigrp 1
 network 10.0.0.0
 no auto-summary
 distribute-list 1 out
```

- A. 10.3.0.0
- B. 10.3.2.0
- C. 10.3.4.0
- D. 10.3.6.0

**Answer:** CD

#### QUESTION 240

Which two statements about the metric-style wide statement as it applies to route redistribution are true? (Choose two.)

- A. It is used in IS-IS.
- B. It is used in OSPF.
- C. It is used in EIGRP.
- D. It is used for accepting TLV.
- E. It is used in PIM for accepting mroutes.
- F. It is used for accepting external routes.

**Answer:** AD

#### QUESTION 241

You are tasked with configuring a router on an OSPF domain to import routes from an EIGRP domain and summarize the routes to 192.168.64.0.

Which statement configures the summarized route and provides equal-path route redundancy?

- A. area 32 range 192.168.64.0 255.255.192.0 cost 100
- B. area 32 range 192.168.64.0 255.255.63.0 cost 100
- C. area 32 range 192.168.64.0 255.255.64.0 cost 100
- D. area 32 range 192.168.64.0 255.255.192.0 multi-path

**Answer:** A

#### QUESTION 242

Packets from a router with policy-based routing configured are failing to reach the next hop. Which two additions can you make to the router configuration to enable the packets to flow correctly? (Choose two.)

- A. Enable ip proxy-arp on the exiting interface.
- B. Specify the next hop as an address.
- C. Specify the next hop as an interface.

D. Add a match-any permit statement to the route map.

**Answer:** AB

**QUESTION 243**

Which two options are EIGRP route authentication encryption modes? (Choose two.)

- A. MD5
- B. HMAC-SHA2-256bit
- C. ESP-AES
- D. HMAC-AES

**Answer:** AB

**QUESTION 244**

Which technology facilitates neighbor IP address resolution in DMVPN?

- A. CEF
- B. mGRE
- C. a dynamic routing protocol
- D. NHRP

**Answer:** D

**QUESTION 245**

Which two are features of DMVPN? (Choose two.)

- A. It does not support spoke routers behind dynamic NAT.
- B. It requires IPsec encryption.
- C. It only supports remote peers with statically assigned addresses.
- D. It supports multicast traffic.
- E. It offers configuration reduction.

**Answer:** DE

**QUESTION 246**

Refer to the exhibit. What is wrong with the configuration of this tunnel interface?

```
interface tunnel 1
 tunnel source ethernet 0
 tunnel mode ipv6ip isatap
 ipv6 address 2001:DB8::/64 eui-64
```

- A. ISATAP tunnels cannot use the EUI-64 address format.
- B. No tunnel destination has been specified.
- C. The tunnel source of an ISATAP tunnel must always point to a loopback interface.
- D. Router advertisements are disabled on this tunnel interface.

**Answer: D**

**QUESTION 247**

Which two statements are true about a 6to4 tunnel connecting two IPv6 islands over the IPv4 Internet? (Choose two.)

- A. It embeds the IPv6 packet into the IPv4 payload with the protocol type set to 51.
- B. It works by appending the private IPv4 address (converted into hexadecimal format) to the 2002::/16 prefix.
- C. It embeds the IPv6 packet into the IPv4 payload with the protocol type set to 41.
- D. It works by appending the public IPv4 address (converted into hexadecimal format) to the 2002::/16 prefix.

**Answer: CD**

**QUESTION 248**

Refer to the exhibit. What will be the IP MTU of tunnel 0?

```
interface GigabitEthernet0/0
ip address 10.10.10.1 255.255.255.0
duplex auto
speed auto
media-type rj45
!
interface Tunnel0
ip address 192.168.1.1 255.255.255.252
tunnel source GigabitEthernet0/0
tunnel destination 192.168.1.240
```

- A. 1500
- B. 1524
- C. 1476
- D. 1452
- E. 1548

**Answer: C**

**QUESTION 249**

On an MPLS L3VPN, which two tasks are performed by the PE router? (Choose two.)

- A. It exchanges VPNv4 routes with other PE routers.
- B. It typically exchanges iBGP routing updates with the CE device.
- C. It distributes labels and forwards labeled packets.
- D. It exchanges VPNv4 routes with CE devices.
- E. It forwards labeled packets between CE devices.

**Answer: AC**

### QUESTION 250

Refer to the exhibit. Which statement describes what the authoritative flag indicates?

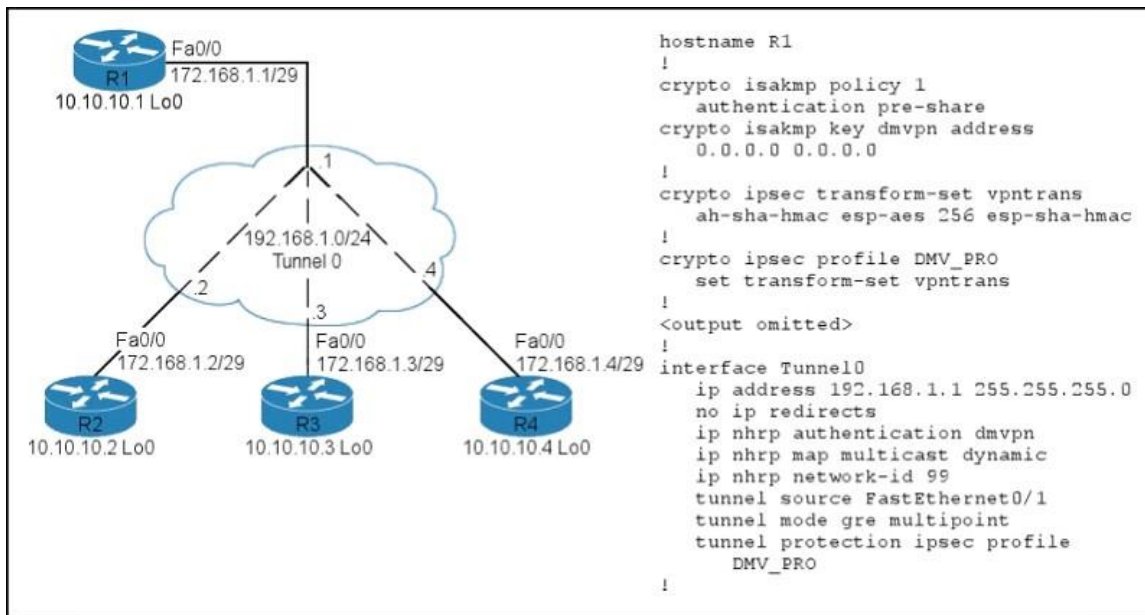
```
R1#show ip nhrp detail
10.1.0.2/32 via 10.1.0.2, Tunnel0 created 00:06:35, expire 00:00:29
 Type: dynamic, Flags: authoritative unique registered used
 NBMA address: 192.168.2.2
10.1.0.3/32 via 10.1.0.3, Tunnel0 created 00:05:28, expire 00:00:52
 Type: dynamic, Flags: authoritative unique registered used
 NBMA address: 192.168.3.3
```

- A. Authentication was used for the mapping.
- B. R1 learned about the NHRP mapping from a registration request.
- C. Duplicate mapping in the NHRP cache is prevented.
- D. The registration request had the same flag set.

**Answer: B**

### QUESTION 251

Refer to the exhibit. Which two statements about this configuration are true? (Choose two.)



- A. Spoke devices will be dynamically added to the NHRP mappings.
- B. The next-hop server address must be configured to 172.168.1.1 on all spokes.
- C. The next-hop server address must be configured to 192.168.1.1 on all spokes.
- D. R1 will create a static mapping for each spoke.

**Answer: AC**

### QUESTION 252

Which two tunneling techniques determine the IPv4 destination address on a per-packet basis?

(Choose two.)

- A. 6to4 tunneling
- B. ISATAP tunneling
- C. manual tunneling
- D. GRE tunneling

**Answer:** AB

**QUESTION 253**

Which two services are used to transport Layer 2 frames across a packet-switched network?  
(Choose two.)

- A. Frame Relay
- B. ATM
- C. AToM
- D. L2TPv3

**Answer:** CD

**QUESTION 254**

Which two statements about the C-bit and PW type are true? (Choose two.)

- A. The C-bit is 1 byte and the PW type is 15 bytes.
- B. The PW type indicates the type of pseudowire.
- C. The C-bit is 3 bits and the PW type is 10 bits.
- D. The C-bit set to 1 indicates a control word is present.
- E. The PW type indicates the encryption type.

**Answer:** BD

**QUESTION 255**

Which statement describes the function of rekey messages?

- A. They prevent unencrypted traffic from passing through a group member before registration.
- B. They refresh IPsec SAs when the key is about to expire.
- C. They trigger a rekey from the server when configuring the rekey ACL.
- D. They authenticate traffic passing through a particular group member.

**Answer:** B

**QUESTION 256**

Which three statements about GET VPN are true? (Choose three.)

- A. It encrypts WAN traffic to increase data security and provide transport authentication.
- B. It provides direct communication between sites, which reduces latency and jitter.
- C. It can secure IP multicast, unicast, and broadcast group traffic.
- D. It uses a centralized key server for membership control.

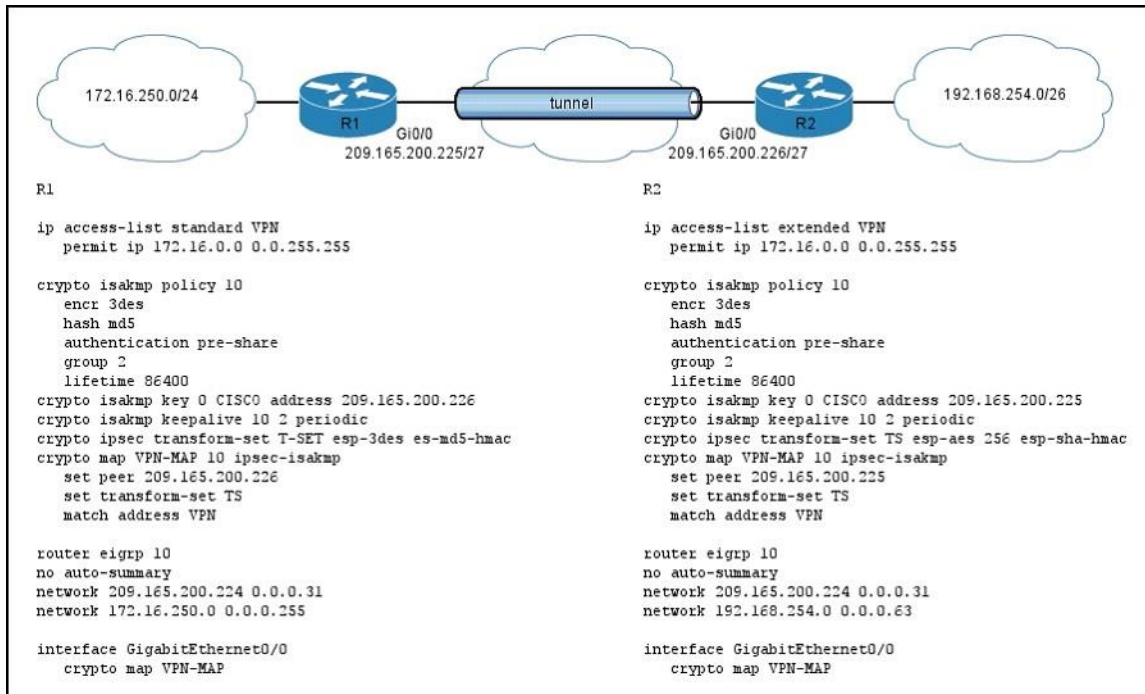


- E. It enables the router to configure tunnels.
- F. It maintains full-mesh connectivity for IP networks.

**Answer:** ABD

#### QUESTION 257

Refer to the exhibit. If the traffic flowing from network 192.168.254.0 to 172.16.250.0 is unencrypted, which two actions must you take to enable encryption? (Choose two).



- A. Configure the transform-set on R2 to match the configuration on R1.
- B. Configure the crypto map on R2 to include the correct subnet.
- C. Configure the ISAKMP policy names to match on R1 and R2.
- D. Configure the crypto map names to match on R1 and R2.
- E. Configure the Diffie-Hellman keys used in the ISAKMP policies to be different on R1 and R2.

**Answer:** AB

#### QUESTION 258

Which service is disabled by the no service tcp-small-servers command?

- A. the finger service
- B. the Telnet service
- C. the Maintenance Operation Protocol service
- D. the chargen service

**Answer:** D

**QUESTION 259**

What is the ip dhcp snooping information option command used for?

- A. It displays information about the DHCP snooping table.
- B. It sends a syslog and an SNMP trap for a DHCP snooping violation.
- C. It enables the DHCP snooping host tracking feature.
- D. It enables DHCP option 82 data insertion.

**Answer: D**

**QUESTION 260**

Which two statements are true about unicast RPF? (Choose two.)

- A. Unicast RPF requires CEF to be enabled.
- B. Unicast RPF strict mode works better with multihomed networks.
- C. Unicast RPF strict mode supports symmetric paths.
- D. Unicast RPF strict mode supports asymmetric paths.
- E. CEF is optional with Unicast RPF, but when CEF is enabled it provides better performance.

**Answer: AC**

**QUESTION 261**

Under Cisco IOS Software, which two features are supported in RADIUS Change of Authorization requests? (Choose two.)

- A. session identification
- B. session reauthentication
- C. session termination
- D. host termination

**Answer: AC**

**QUESTION 262**

In a PfR environment, which two statements best describe the difference between active mode monitoring and fast mode monitoring? (Choose two.)

- A. Active mode monitoring can monitor and measure actual traffic via NetFlow data collection.
- B. Fast mode monitoring can measure bursty traffic better than active mode.
- C. Active mode monitoring uses IP SLA probes for the purpose of obtaining performance characteristics of the current WAN exit link.
- D. Fast mode monitoring uses IP SLA probes via all valid exits continuously to quickly determine an alternate exit link.

**Answer: CD**

**QUESTION 263**

Refer to the exhibit. Which two statements are true regarding prefix 10.1.0.0/24? (Choose two.)

```
MC#sh pfr master traffic-class
```

OER Prefix Statistics:

Pas - Passive, Act - Active, S - Short term, L - Long term, Dly - Delay (ms),  
P - Percentage below threshold, Jit - Jitter (ms),  
MOS - Mean Opinion Score  
Los - Packet Loss (packets-per-million), Un - Unreachable (flows-per-million),  
E - Egress, I - Ingress, Bw - Bandwidth (kbps), N - Not applicable  
U - unknown, \* - uncontrolled, + - control more specific, @ - active probe all  
# - Prefix monitor mode is Special, & - Blackholed Prefix  
% - Force Next-Hop, ^ - Prefix is denied

| DstPrefix   | Flags   | Appl_ID | Dscp      | Prot   | SrcPort | DstPort  | SrcPrefix | Protocol |
|-------------|---------|---------|-----------|--------|---------|----------|-----------|----------|
|             | PasSDly | PasLDly | PasSUn    | PasLUn | PasSJos | PasLJos  | EBw       | IBw      |
|             | ActSDly | ActLDly | ActSUn    | ActLUn | ActSJit | ActPMOS  | ActSJos   | ActLJos  |
| 10.1.0.0/24 |         |         | N         | N      | N       | N        | N         |          |
|             |         |         | INPOLICY* |        | @83     | 10.4.5.4 | Et0/1     | U        |
|             | 52      | 52      | 0         | 0      | 0       | 0        | 67        | 7        |
|             | 51      | 51      | 0         | 0      | N       | N        | N         | N        |

- A. The prefix is in policy, and Cisco PfR rerouted the traffic via 10.4.5.3 Et0/1 because of an OOP event.
- B. Cisco PfR is monitoring the prefix via passive NetFlow mode only.
- C. Cisco PfR is monitoring the prefix via active, fast, or active throughput IP SLA probe mode only.
- D. The prefix is in policy, and Cisco PfR did not reroute the traffic via 10.4.5.3 Et0/1 because the traffic was previously in policy.
- E. Cisco PfR is monitoring the prefix via mode monitor, which provides both NetFlow and IP SLA measurements.

**Answer:** DE

#### QUESTION 264

In the DiffServ model, which class represents the lowest priority with the highest drop probability?

- A. AF11
- B. AF13
- C. AF41
- D. AF43

**Answer:** B

#### QUESTION 265

Which two hashing algorithms can be used when configuring SNMPv3? (Choose two.)

- A. MD5
- B. SHA-1
- C. Blowfish
- D. DES
- E. AES
- F. SSL

**Answer:** AB

#### QUESTION 266

Which two statements about the default router settings for SSH connections are true? (Choose two.)

- A. The default timeout value for the SSH negotiation phase is 120 seconds.
- B. Data is exchanged in clear text by default unless AAA authentication is enabled on the console.
- C. The default number of authentication retries is 3.
- D. SSH is enabled by default when you configure the username command.

**Answer: AC**

#### QUESTION 267

Refer to the exhibit. Which statement about the R1 configuration is true?

```
R1#sh logging
Syslog logging: enabled (12 messages dropped, 0 messages rate-limited, 0 flushes, 0 overruns, xml disabled, filtering disabled)

No Active Message Discriminator.

No Inactive Message Discriminator.

Console logging: level debugging, 28 messages logged, xml disabled, filtering disabled
Monitor logging: level debugging, 0 messages logged, xml disabled, filtering disabled
Buffer logging: level debugging, 7 messages logged, xml disabled, filtering disabled
Logging Exception size (4096 bytes)
Count and timestamp logging messages: disabled
Persistent logging: disabled

No active filter modules.

ESM: 0 messages dropped

%SYS-5-CONFIG_I: Configured from console by console
Trap logging: level informational, 32 message lines logged

Log Buffer (4096 bytes):

%BGPP-5-ADJCHANGE: neighbor 209.165.200.226 Down Interface flap
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to administratively down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to down
%SYS-5-CONFIG_I: Configured from console by console
```

- A. It supports the service timestamps log uptime command to display time stamps.
- B. The logging buffer command was used to increase the default of the buffer.
- C. The logging of warning messages is disabled.
- D. Log message sequence numbering is disabled.

**Answer: D**

#### QUESTION 268

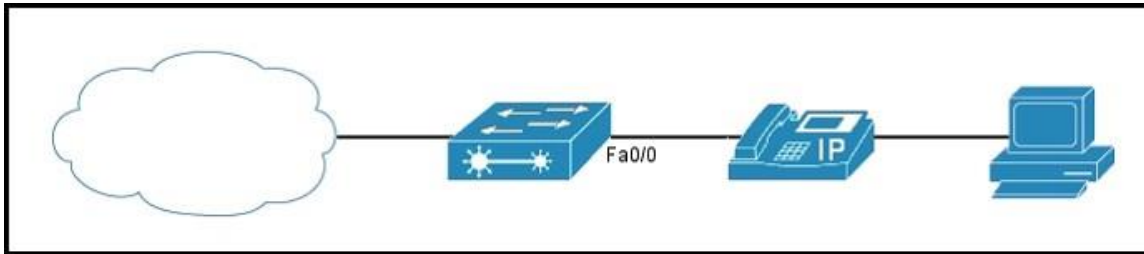
Which two statements about class maps are true? (Choose two.)

- A. As many as eight DSCP values can be included in a match dscp statement.
- B. The default parameter on a class map with more than one match command is match-any.
- C. The match class command can nest a class map within another class map.
- D. A policy map can be used to designate a protocol within a class map.

**Answer: AC**

#### QUESTION 269

Refer to the exhibit. Which statement about configuring the switch to manage traffic is true?



- A. The switchport priority extend cos command on interface FastEthernet0/0 prevents traffic to and from the PC from taking advantage of the high-priority data queue that is assigned to the IP phone.
- B. The switchport priority extend cos command on interface FastEthernet0/0 enables traffic to and from the PC to use the high priority data queue that is assigned to the IP phone.
- C. When the switch is configured to trust the CoS label of incoming traffic, the trusted boundary feature is disabled automatically.
- D. The mls qos cos override command on interface FastEthernet0/0 configures the port to trust the CoS label of traffic to and from the PC.

**Answer: A**

#### QUESTION 270

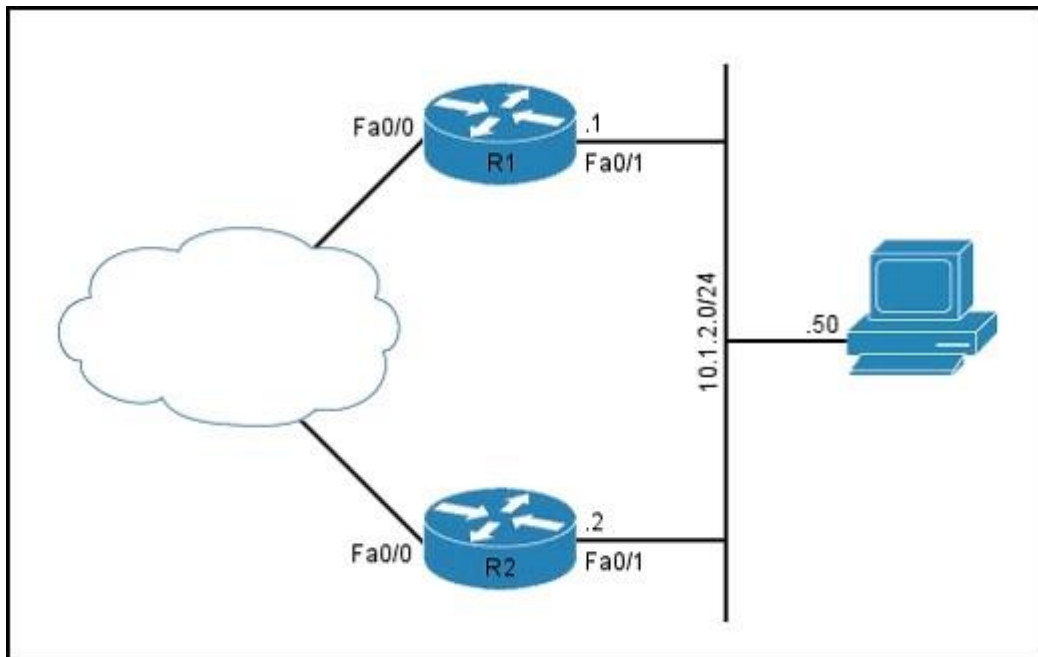
Which IP SLA operation type is enhanced by the use of the IP SLAs Responder?

- A. DNS
- B. HTTP
- C. ICMP Echo
- D. UDP Echo

**Answer: D**

#### QUESTION 271

Refer to the exhibit. Router 1 and Router 2 use HSRP to provide first hop redundancy for hosts on the 10.1.2.0/24 network.



Which feature can provide additional failover coverage for the PC?

- A. Cisco Express Forwarding
- B. NetFlow
- C. Accounting
- D. Enhanced Object Tracking

**Answer: D**

#### QUESTION 272

Which neighbor-discovery message type is used to verify connectivity to a neighbor when the link-layer address of the neighbor is known?

- A. neighbor solicitation
- B. neighbor advertisement
- C. router advertisement
- D. router solicitation

**Answer: A**

#### QUESTION 273

Refer to the exhibit. Which two possible network conditions can you infer from this configuration? (Choose two.)



```
R2#show ntp associations
 address ref clock st when poll reach delay offset disp
~10.1.1.1 0.0.0.0 16 61 64 0 0.0 0.00 16000.
* master (syncd), # master (unsyncd), + selected, - candidate, ~ configured

R2#show ip route | include 10.1.1.1
O 10.1.1.1/32 [110/11] via 10.1.12.1, 00:20:28, FastEthernet0/0.12

R2#show run | include ntp
ntp authentication-key 1 md5 110A1016141D 7
ntp authenticate
ntp trusted-key 1
ntp clock-period 17179894
ntp server 10.1.1.1 key 1

R1#show ip route connected
 209.165.200.0/27 is subnetted, 1 subnets
C 209.165.200.224 is directly connected, FastEthernet0/0.112
 10.0.0.0/8 is variably subnetted, 7 subnets, 2 masks
C 10.1.13.0/24 is directly connected, FastEthernet0/1.13
C 10.1.12.0/24 is directly connected, FastEthernet0/0.12
C 10.1.1.0/24 is directly connected, Loopback0
```

- A. The authentication parameters on R1 and R2 are mismatched.
- B. R1 is using the default NTP source configuration.
- C. R1 and R2 have established an NTP session.
- D. R2 is configured as the NTP master with a stratum of 7.

**Answer:** AB

#### QUESTION 274

Which three message types are used for prefix delegation in DHCPv6? (Choose three.)

- A. DHCP Discover
- B. Renew
- C. Solicit
- D. DHCP Offer
- E. Advertise
- F. DHCP Ack

**Answer:** BCE

#### QUESTION 275

Which two statements about static NAT are true? (Choose two.)

- A. An outside local address maps to the same outside global IP address.
- B. An inside local address maps to a different inside global IP address.
- C. An outside local address maps to a different outside global IP address.
- D. An inside local address maps to the same inside global IP address.

**Answer:** AD

### QUESTION 276

Drag and Drop Question

| Drag and drop the IPv6 prefix on the left to the correct address type on the right. |                      |
|-------------------------------------------------------------------------------------|----------------------|
| FF00::8                                                                             | Unique Local Unicast |
| FEC0::10                                                                            | Global Unicast       |
| 2000::3                                                                             | Link Local Unicast   |
| FE80::10                                                                            | Multicast            |
| FC00::7                                                                             |                      |
| FE00::9                                                                             |                      |

**Answer:**

| Drag and drop the IPv6 prefix on the left to the correct address type on the right. |          |
|-------------------------------------------------------------------------------------|----------|
| FF00::8                                                                             | FC00::7  |
| FEC0::10                                                                            | 2000::3  |
| 2000::3                                                                             | FEC0::10 |
| FE80::10                                                                            | FF00::8  |
| FC00::7                                                                             |          |
| FE00::9                                                                             |          |

### QUESTION 277

Drag and Drop Question

| Drag and drop the BGP attribute on the left to the correct category on the right. |                                        |
|-----------------------------------------------------------------------------------|----------------------------------------|
| Community                                                                         | BGP Well-Known Mandatory Attribute     |
| Atomic-Aggregate                                                                  | Target                                 |
| Aggregator                                                                        | BGP Well-Known Discretionary Attribute |
| Cluster List                                                                      | Target                                 |
| Next-Hop                                                                          | BGP Optional Nontransitive Attribute   |
| MED                                                                               | Target                                 |
|                                                                                   | Target                                 |

**Answer:**

Drag and drop the BGP attribute on the left to the correct category on the right.

|                  |                                        |
|------------------|----------------------------------------|
| Community        | BGP Well-Known Mandatory Attribute     |
| Atomic-Aggregate | Next-Hop                               |
| Aggregator       | BGP Well-Known Discretionary Attribute |
| Cluster List     | Atomic-Aggregate                       |
| Next-Hop         | BGP Optional Nontransitive Attribute   |
| MED              | Cluster List                           |
|                  | MED                                    |

### QUESTION 278

Drag and Drop Question

|                                                             |         |
|-------------------------------------------------------------|---------|
| Uses UDP                                                    | TACACS+ |
| Separates authentication, authorization, and accountability |         |
| Is proprietary to Cisco                                     |         |
| Encrypts only the password                                  | RADIUS  |
|                                                             |         |

**Answer:**

|                                                             |                                                             |
|-------------------------------------------------------------|-------------------------------------------------------------|
| Uses UDP                                                    | TACACS+                                                     |
| Separates authentication, authorization, and accountability | Is proprietary to Cisco                                     |
| Is proprietary to Cisco                                     | Separates authentication, authorization, and accountability |
| Encrypts only the password                                  | RADIUS                                                      |
|                                                             | Uses UDP                                                    |
|                                                             | Encrypts only the password                                  |

### QUESTION 279

Drag and Drop Question

Drag and drop the protocol on the left to the corresponding administrative distance on the right.

|                |     |
|----------------|-----|
| ODR            | 0   |
| connected      | 1   |
| external EIGRP | 160 |
| static         | 115 |
| IS-IS          | 200 |
| iBGP           | 170 |

**Answer:**

| Drag and drop the protocol on the left to the corresponding administrative distance on the right. |                |
|---------------------------------------------------------------------------------------------------|----------------|
| ODR                                                                                               | connected      |
| connected                                                                                         | static         |
| external EIGRP                                                                                    | ODR            |
| static                                                                                            | IS-IS          |
| IS-IS                                                                                             | iBGP           |
| iBGP                                                                                              | external EIGRP |

### QUESTION 280

Drag and Drop Question

Drag and drop the PPPoE packet type on the left to the corresponding description on the right.

| Drag and drop the PPPoE packet type on the left to the corresponding description on the right. |                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PADR                                                                                           | A packet that is sent with the destination_addr set to the broadcast address. The packet indicates the type of service requested.                                   |
| PADT                                                                                           | A packet that is sent with the destination_addr set to the unicast address of the PPPoE client. The packet contains an offer for the client.                        |
| PADO                                                                                           | A packet that is sent from the PPPoE client with the destination_addr set to the chosen access concentrator. The packet contains a session request from the client. |
| PADI                                                                                           | A packet that is sent as confirmation to the client. The packet contains the unique PPPoE session ID.                                                               |
| PADS                                                                                           | A packet that is sent to terminate the PPPoE session.                                                                                                               |

**Answer:**

| Drag and drop the PPPoE packet type on the left to the corresponding description on the right. |      |
|------------------------------------------------------------------------------------------------|------|
| PADR                                                                                           | PADI |
| PADT                                                                                           | PADO |
| PADO                                                                                           | PADR |
| PADI                                                                                           | PADS |
| PADS                                                                                           | PADT |

### QUESTION 281

Drag and Drop Question

|                                                                                     |                                                                                                              |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Drag and drop the BGP state on the left to the action that defines it on the right. |                                                                                                              |
| OpenConfirm                                                                         | The BGP routing process detects that a peer is trying to establish a TCP session with the local BGP speaker. |
| Idle                                                                                | The BGP routing process tries to establish a TCP session with a peer device.                                 |
| Active                                                                              | The TCP connection is established.                                                                           |
| Connect                                                                             | The BGP routing process waits to receive an initial keepalive message from the peer.                         |
| Established                                                                         | The initial BGP state.                                                                                       |
| OpenSent                                                                            | The router exchanges update messages with the peer.                                                          |

**Answer:**

|                                                                                     |             |
|-------------------------------------------------------------------------------------|-------------|
| Drag and drop the BGP state on the left to the action that defines it on the right. |             |
| OpenConfirm                                                                         | Connect     |
| Idle                                                                                | Active      |
| Active                                                                              | OpenSent    |
| Connect                                                                             | OpenConfirm |
| Established                                                                         | Idle        |
| OpenSent                                                                            | Established |

### QUESTION 282

Drag and Drop Question

Drag and drop the extended ping command field on the left to its usage on the right.

|                                                                                      |                                                                       |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Drag and drop the extended ping command field on the left to its usage on the right. |                                                                       |
| type of service                                                                      | discovering framing issues on serial lines                            |
| sweep range of sizes                                                                 | adjusting delay, throughput, and reliability preferences for the ping |
| data pattern                                                                         | configuring the IP header options of the ping                         |
| loose, strict, record, timestamp, verbose                                            | determining the minimum MTU in a path                                 |

**Answer:**

Drag and drop the extended ping command field on the left to its usage on the right.

|                                           |                                           |
|-------------------------------------------|-------------------------------------------|
| type of service                           | data pattern                              |
| sweep range of sizes                      | type of service                           |
| data pattern                              | loose, strict, record, timestamp, verbose |
| loose, strict, record, timestamp, verbose | sweep range of sizes                      |

### QUESTION 283

Drag and Drop Question

Drag and drop the argument of the `mpls ip cef load-sharing` command on the left to the function it performs on the right.

Drag and drop the argument of the `mpls ip cef load-sharing` command on the left to the function it performs on the right.

|                          |                                                                                                                             |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| simple                   | configures CEF load balancing to use Layer 3 and Layer 4 information, excluding multiple adjacencies                        |
| full                     | configures CEF load balancing to use only destination Layer 4 ports                                                         |
| full simple              | configures CEF load balancing to use only Layer 3 information, excluding multiple adjacencies                               |
| exclude-port source      | configures CEF load balancing to use only source Layer 4 ports                                                              |
| exclude-port destination | configures CEF load balancing to use source and destination Layer 3 and Layer 4 information, including multiple adjacencies |

**Answer:**

Drag and drop the argument of the `mpls ip cef load-sharing` command on the left to the function it performs on the right.

|                          |                          |
|--------------------------|--------------------------|
| simple                   | full simple              |
| full                     | exclude-port source      |
| full simple              | simple                   |
| exclude-port source      | exclude-port destination |
| exclude-port destination | full                     |

### QUESTION 284

Drag and Drop Question

Drag and drop the method for refreshing BGP prefixes on the left to the corresponding description on the right.



|                                                                                                                 |                                                                   |
|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Drag and drop the method for refreshing BGP prefixes on the left to the corresponding description on the right. |                                                                   |
| hard reset                                                                                                      | requests a complete refresh of the Adj-RIB-Out                    |
| soft reset                                                                                                      | tears down the peering session and deletes prefixes from the peer |
| dynamic inbound soft reset                                                                                      | uses extra prefix information stored locally                      |
| Enhanced Route Refresh                                                                                          | finds route inconsistencies and synchronizes with the peer        |

**Answer:**

|                                                                                                                 |                            |
|-----------------------------------------------------------------------------------------------------------------|----------------------------|
| Drag and drop the method for refreshing BGP prefixes on the left to the corresponding description on the right. |                            |
| hard reset                                                                                                      | dynamic inbound soft reset |
| soft reset                                                                                                      | hard reset                 |
| dynamic inbound soft reset                                                                                      | soft reset                 |
| Enhanced Route Refresh                                                                                          | Enhanced Route Refresh     |

### QUESTION 285

Drag and Drop Question

|                                                                                              |                                                                                              |
|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Drag and drop the IS-IS component on the left to the function that it performs on the right. |                                                                                              |
| attached bits                                                                                | instructs other devices to route around the sending device until its LSDB is fully converged |
| overload bit                                                                                 | discovers neighboring IS-IS systems                                                          |
| TLV                                                                                          | carries additional data within an IS-IS packet                                               |
| IIH                                                                                          | synchronizes the LSDB within an IS-IS domain                                                 |
| PNSP                                                                                         | indicates to a Level 1 device that the sending device has reachability to other areas        |
| CNSP                                                                                         | requests retransmission of the latest version of an LSP                                      |

**Answer:**

|                                                                                              |               |
|----------------------------------------------------------------------------------------------|---------------|
| Drag and drop the IS-IS component on the left to the function that it performs on the right. |               |
| attached bits                                                                                | overload bit  |
| overload bit                                                                                 | IIH           |
| TLV                                                                                          | TLV           |
| IIH                                                                                          | CNSP          |
| PNSP                                                                                         | attached bits |
| CNSP                                                                                         | PNSP          |

### QUESTION 286

#### Drag and Drop Question

|                                                                                    |                                                                                               |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Drag and drop the NHRP flag on the left to the corresponding meaning on the right. |                                                                                               |
| authoritative                                                                      | NHRP information was learned from a forwarded NHRP packet.                                    |
| implicit                                                                           | The NHRP mapping entry is active and process-switched.                                        |
| negative                                                                           | NHRP information was obtained from the next hop server that maintains the NBMA-to-IP mapping. |
| used                                                                               | The requested NBMA mapping failed.                                                            |

#### Answer:

|                                                                                    |               |
|------------------------------------------------------------------------------------|---------------|
| Drag and drop the NHRP flag on the left to the corresponding meaning on the right. |               |
| authoritative                                                                      | implicit      |
| implicit                                                                           | used          |
| negative                                                                           | authoritative |
| used                                                                               | negative      |

### QUESTION 287

#### Drag and Drop Question

|                                                                                                   |                                                                                     |
|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Drag and drop the RIP configuration command on the left to the function it performs on the right. |                                                                                     |
| ip rip triggered                                                                                  | configures the router to verify the IP address of routers that send updates         |
| output-delay                                                                                      | configures the router to send information only when the routing database is updated |
| validate-update-source                                                                            | configures the router to modify routing metrics                                     |
| offset-list                                                                                       | configures the router to throttle RIP updates                                       |

#### Answer:

|                                                                                                   |                        |
|---------------------------------------------------------------------------------------------------|------------------------|
| Drag and drop the RIP configuration command on the left to the function it performs on the right. |                        |
| ip rip triggered                                                                                  | validate-update-source |
| output-delay                                                                                      | ip rip triggered       |
| validate-update-source                                                                            | offset-list            |
| offset-list                                                                                       | output-delay           |

### QUESTION 288

Drag and Drop Question

| Drag and drop the NetFlow Export feature on the left to the NetFlow version that first supported it on the right. |           |
|-------------------------------------------------------------------------------------------------------------------|-----------|
| exports data from the aggregation cache only                                                                      | Version 5 |
| exports data from the main and aggregation caches                                                                 |           |
| exports data from the main cache only                                                                             |           |
| supports BGP next-hop                                                                                             | Version 8 |
| supports BGP AS information                                                                                       |           |
| supports IPv6                                                                                                     | Version 9 |
|                                                                                                                   |           |
|                                                                                                                   |           |
|                                                                                                                   |           |

**Answer:**

| Drag and drop the NetFlow Export feature on the left to the NetFlow version that first supported it on the right. |                                                   |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| exports data from the aggregation cache only                                                                      | Version 5                                         |
| exports data from the main and aggregation caches                                                                 | exports data from the main cache only             |
| exports data from the main cache only                                                                             | supports BGP AS information                       |
| supports BGP next-hop                                                                                             | Version 8                                         |
| supports BGP AS information                                                                                       | exports data from the aggregation cache only      |
| supports IPv6                                                                                                     | Version 9                                         |
|                                                                                                                   | supports IPv6                                     |
|                                                                                                                   | exports data from the main and aggregation caches |
|                                                                                                                   | supports BGP next-hop                             |

### QUESTION 289

What is Nagle's algorithm used for?

- A. To increase the latency
- B. To calculate the best path in distance vector routing protocols
- C. To calculate the best path in link state routing protocols
- D. To resolve issues caused by poorly implemented TCP flow control.

**Answer: D**

### QUESTION 290

Which statement is true regarding the UDP checksum?

- A. It is used for congestion control.
- B. It cannot be all zeros.
- C. It is used by some Internet worms to hide their propagation.
- D. It is computed based on the IP pseudo-header.

**Answer: D**

**QUESTION 291**

How many hash buckets does Cisco Express Forwarding use for load balancing?

- A. 8
- B. 16
- C. 24
- D. 32

**Answer: B**

**QUESTION 292**

Which statement describes the purpose of the Payload Type field in the RTP header?

- A. It identifies the signaling protocol.
- B. It identifies the codec.
- C. It identifies the port numbers for RTP.
- D. It identifies the port numbers for RTCP.

**Answer: B**

**QUESTION 293**

Which Cisco IOS XE process administers routing and forwarding?

- A. Forwarding manager
- B. Interface manager
- C. Cisco IOS
- D. Host manager

**Answer: C**

**QUESTION 294**

Which circumstance can cause packet loss due to a microburst?

- A. slow convergence
- B. a blocked spanning-tree port
- C. process switching
- D. insufficient buffers

**Answer: D**

**QUESTION 295**

When you migrate a network from PVST+ to rapid-PVST+, which two features become inactive? (Choose two.)

- A. Root guard
- B. Loop guard
- C. UplinkFast
- D. UDLD
- E. BackboneFast
- F. Bridge Assurance

**Answer:** CE

**QUESTION 296**

Which three condition types can be monitored by crypto conditional debug? (Choose three.)

- A. Peer hostname
- B. SSL
- C. ISAKMP
- D. Flow ID
- E. IPsec
- F. Connection ID

**Answer:** ADF

**QUESTION 297**

Refer to the exhibit. Which two pieces of information in this Wireshark capture indicate that you are viewing EIGRP traffic? (Choose two.)

```
Internet Protocol, Src: 192.168.0.2 (192.168.0.2), Dst: 224.0.0.10 (224.0.0.10)
Version: 4
Header length: 20 bytes
Differentiated Services Field: 0xc0 (DSCP 0x30: Class Selector 6; ECN: 0x00)
Total Length: 60
Identification: 0x0000 (0)
Flags: 0x00
Fragment offset: 0
Time to live: 2
Protocol: EIGRP (88)
Header checksum: 0x16f6 [correct]
Source: 192.168.0.2 (192.168.0.2)
Destination: 224.0.0.10 (224.0.0.10)
```

- A. the header length
- B. the protocol number
- C. the destination address
- D. the Class Selector
- E. the source address
- F. the header checksum

**Answer:** BC

**QUESTION 298**

Which statement is true about MLD?

- A. MLD v1 gives hosts the ability to receive multicast packets from specific source addresses.
- B. All MLD messages are sent with a link-local IPv6 source address of FF02::D.
- C. The multicast address field is cleared to zero when sending an MLD report message.
- D. MLD is used by IPv6 routers to discover multicast listeners on a directly attached link.

**Answer:** D

**QUESTION 299**

Which statement is true about LLDP?

- A. LLDP provides VTP support.
- B. LLDP does not use a multicast address to communicate.
- C. LLDP can indicate only the duplex setting of a link, and not the speed capabilities.
- D. LLDP does not support native VLAN indication.

**Answer:** D

**QUESTION 300**

Which statement is true when using a VLAN ID from the extended VLAN range (1006-4094)?

- A. VLANs in the extended VLAN range can be used with VTPv2 in either client or server mode.
- B. VLANs in the extended VLAN range can only be used as private VLANs.
- C. STP is disabled by default on extended-range VLANs.
- D. VLANs in the extended VLAN range cannot be pruned.

**Answer:** D

**QUESTION 301**

Which statement is true about trunking?

- A. Cisco switches that run PVST+ do not transmit BPDUs on nonnative VLANs when using a dot1q trunk.
- B. When removing VLAN 1 from a trunk, management traffic such as CDP is no longer passed in that VLAN.
- C. DTP only supports autonegotiation on 802.1q and does not support autonegotiation for ISL.
- D. DTP is a point-to-point protocol.

**Answer:** D

**QUESTION 302**

Which three statements are true about an EtherChannel? (Choose three.)

- A. PAGP and LACP can be configured on the same switch if the switch is not in the same EtherChannel.
- B. EtherChannel ports in suspended state can receive BPDUs but cannot send them.



- C. An EtherChannel forms between trunks that are using different native VLANs.
- D. LACP can operate in both half duplex and full duplex, if the duplex setting is the same on both ends.
- E. Ports with different spanning-tree path costs can form an EtherChannel.

**Answer:** ABE

**QUESTION 303**

Which technology can be affected when switches are used that do not support jumbo frames?

- A. 802.1x
- B. BFD
- C. OSPFv3
- D. 802.1q

**Answer:** D

**QUESTION 304**

Which statement describes the native VLAN concept in an ISL trunk?

- A. It is the VLAN ID that is assigned to untagged packets.
- B. It is the VLAN with highest priority.
- C. It is the default VLAN for a trunk.
- D. There is no native VLAN concept in an ISL trunk.

**Answer:** D

**QUESTION 305**

Which protocol is the encapsulating protocol for mtrace packets?

- A. ICMP
- B. IGMP
- C. PIM
- D. GRE

**Answer:** B

**QUESTION 306**

Assume that the following MAC addresses are used for the bridge ID MAC address by four different switches in a network. Which switch will be elected as the spanning-tree root bridge?

- A. SwitchA uses MAC 1000.AA-AA-AA-AA-AA-AA.
- B. SwitchB uses MAC 2000.BB-BB-BB-BB-BB-BB.
- C. SwitchC uses MAC 3000.CC-CC-CC-CC-CC-CC.
- D. SwitchD uses MAC 4000.DD-DD-DD-DD-DD-DD.

**Answer:** A

**QUESTION 307**

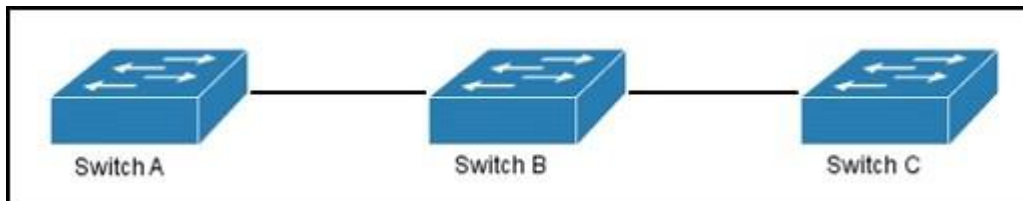
What is the destination MAC address of a BPDU frame?

- A. 01-80-C2-00-00-00
- B. 01-00-5E-00-00-00
- C. FF-FF-FF-FF-FF-FF
- D. 01-80-C6-00-00-01

**Answer: A**

**QUESTION 308**

Refer to the exhibit. All switches are Cisco switches. Assume that Cisco Discovery Protocol is enabled only on switches A and C.



Which information is returned when you issue the command show cdp neighbors on switch C?

- A. a limited amount of information about switch B
- B. no neighbor details will be returned
- C. neighbor details for switch B
- D. neighbor details for switch A
- E. neighbor details for switch C

**Answer: B**

**Explanation:**

CDP is used to discover information on directly connected neighbors only, so in this case Switch C would only be able to obtain CDP information from Switch B. However, since Switch B is not running CDP then no neighbor information will be seen on Switch C. Same goes for Switch A also in this topology.

**QUESTION 309**

Which two features are supported when Cisco HDLC is implemented? (Choose two.)

- A. error recovery
- B. error detection
- C. asynchronous links
- D. multiple protocols

**Answer: BD**

**QUESTION 310**

Refer to the exhibit. With these configurations for R1 and R2, which statement about PPP authentication is true?

```
R1
interface Serial0/0
 encapsulation ppp
 ppp pap sent-username SITE2 password cisco

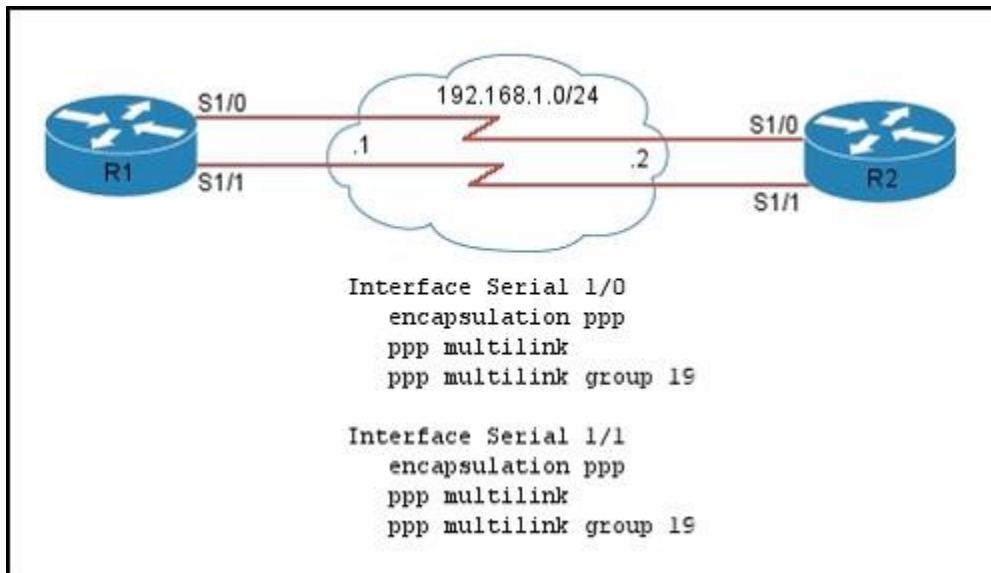
R2
username SITE2 password cisco
interface Serial0/0
 encapsulation ppp
 ppp authentication pap
```

- A. Authentication fails because R1 is missing a username and password.
- B. R2 responds with the correct authentication credentials.
- C. R2 requires authentication from R1.
- D. R1 requires authentication from R2.

**Answer: C**

#### QUESTION 311

Refer to the exhibit. You must complete the configuration on R1 so that a maximum of three links can be used and fragmentation is supported.



Which additional configuration accomplishes this task?

- A. interface Multilink19  
ip address 192.168.1.1 255.255.255.0  
ppp multilink  
ppp multilink group 19  
ppp multilink links minimum 1  
ppp multilink links maximum 3  
ppp multilink interleave

- B. interface Multilink19  
ip address 192.168.1.1 255.255.255.0  
ppp multilink  
ppp multilink group 19  
ppp multilink links maximum 3  
ppp multilink fragment delay 20
- C. interface Multilink19  
ip address 192.168.1.1 255.255.255.0  
ppp multilink  
ppp multilink group 19  
ppp multilink links maximum 3  
ppp multilink fragment delay 20  
ppp multilink interleave
- D. interface Multilink19  
ip address 192.168.1.1 255.255.255.252  
ppp multilink  
ppp multilink group 19  
ppp multilink links maximum 3  
ppp multilink interleave

**Answer: A**

#### QUESTION 312

Refer to the exhibit. Which statement is true about the downward bit?

```
Router#sh ip osp data summ

 OSPF Router with ID (100.1.1.1) (Process ID 1)

 Summary Net Link States (Area 0)

LS age: 22
Options: (No TOS-capability, DC, Downward)
LS Type: Summary Links(Network)
Link State ID: 2.2.0.0 (summary Network Number)
Advertising Router: 2.3.4.101
LS Seq Number: 80000001
Checksum: 0x3316
Length: 28
Network Mask: /24
 MTID: 0 Metric: 1
```

- A. It forces the CE router to use a backup link instead of sending traffic via MPLS VPN.
- B. It informs the PE router that the LSA metric has been recently decreased to 1 and that partial SPF calculation cannot be delayed.
- C. It forces the CE router to install the LSA with the downward bit set into its routing table as a discard route.
- D. It informs the PE router that the LSA was already redistributed into BGP by another PE router and that the LSA must not be redistributed into BGP again.

**Answer: D**

**QUESTION 313**

When BGP route reflectors are used, which attribute ensures that a routing loop is not created?

- A. weight
- B. local preference
- C. multiexit discriminator
- D. originator ID

**Answer: D**

**QUESTION 314**

Which regular expression will match prefixes that originated from AS200?

- A. ^\$
- B. ^200\_
- C. \_200\$
- D. ^200)
- E. \_200\_

**Answer: C**

**QUESTION 315**

Which statement describes the difference between a stub area and a totally stub area?

- A. The ABR advertises a default route to a totally stub area and not to a stub area.
- B. Stub areas do not allow LSA types 4 and 5, while totally stub areas do not allow LSA types 3, 4, and 5.
- C. Totally stub areas allow limited external routes in the area via a special type 7 LSA, while stub areas do not
- D. Stub areas do not allow external LSAs, ASBR summary LSAs, or summary LSAs with the exception of a default route originated by the ABR via a summary LSA.

**Answer: B**

**QUESTION 316**

Which two statements are true about IS-IS? (Choose two.)

- A. IS-IS DIS election is nondeterministic.
- B. IS-IS SPF calculation is performed in three phases.
- C. IS-IS works over the data link layer, which does not provide for fragmentation and reassembly.
- D. IS-IS can never be routed beyond the immediate next hop.

**Answer: CD**

**QUESTION 317**

Which command do you use to connect a dense-mode domain to a sparse-mode multicast domain?

- A. none, because there is no such command
- B. ip pim spt-threshold infinity
- C. ip pim register dense-mode
- D. ip pim dense-mode proxy-register

**Answer:** D

**QUESTION 318**

Which two statements about the function of a PIM designated router are true? (Choose two.)

- A. It forwards multicast traffic from the source into the PIM network.
- B. It registers directly connected sources to the PIM rendezvous point.
- C. It sends PIM Join/Prune messages for directly connected receivers.
- D. It sends IGMP queries.
- E. It sends PIM asserts on the interfaces of the outgoing interface list.

**Answer:** BC

**QUESTION 319**

Refer to the exhibit. Which IP packets will be accepted from EBGP neighbor 10.1.1.1?

```
router bgp 1
neighbor 10.1.1.1 remote-as 2
neighbor 10.1.1.1 ttl-security hops 2
```

- A. IP packets with a TTL count in the header that is equal to or greater than 253
- B. IP packets with a TTL count in the header that is equal to 253
- C. IP packets with a TTL count in the header that is equal to or greater than 2
- D. IP packets with a TTL count in the header that is equal to 2

**Answer:** A

**QUESTION 320**

Which two statements about proxy ARP are true? (Choose two.)

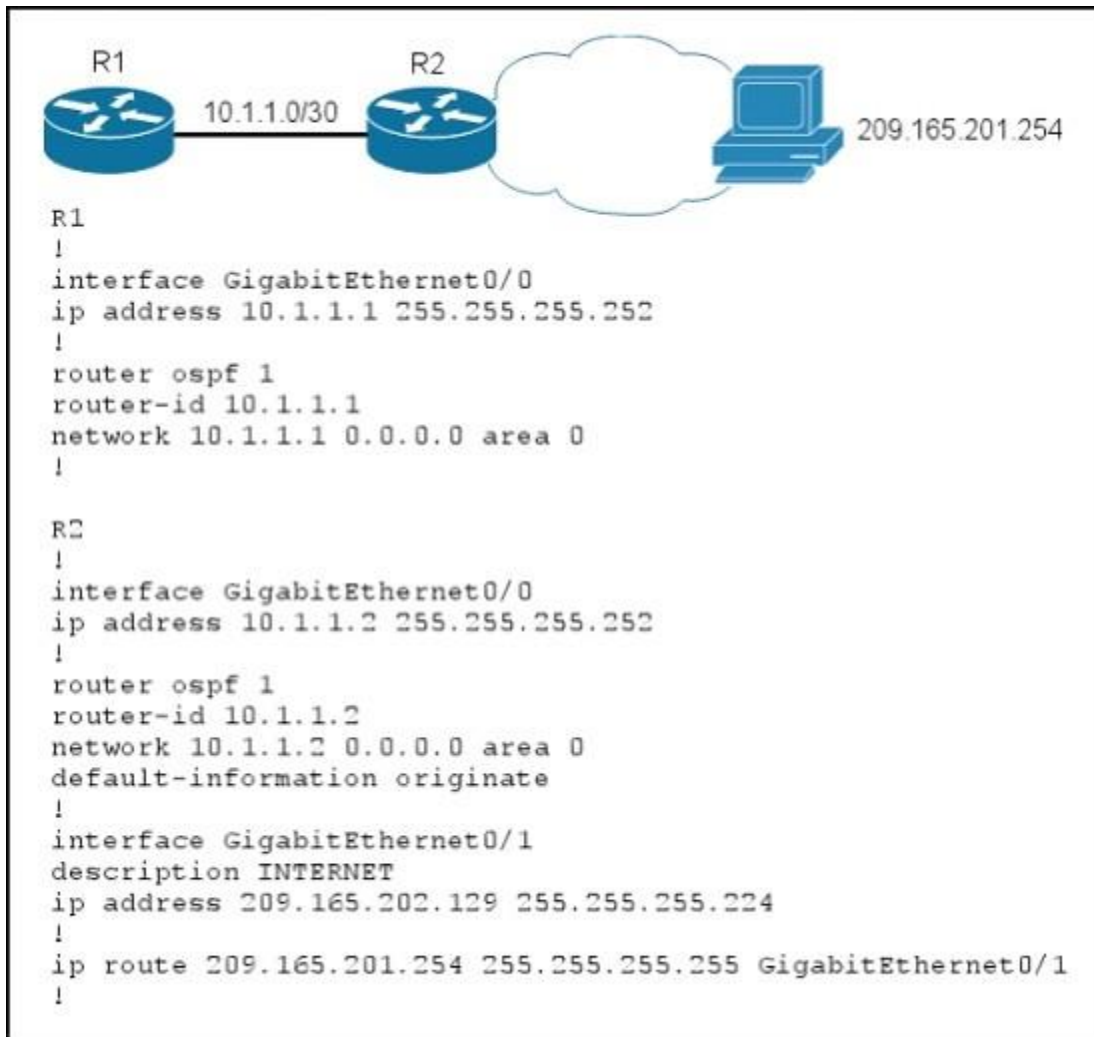
- A. It is supported on networks without ARP.
- B. It allows machines to spoof packets.
- C. It requires larger ARP tables
- D. It reduces the amount of ARP traffic.

**Answer:** BC

**QUESTION 321**

Refer to the exhibit. Routers R1 and R2 are configured as shown, and traffic from R1 fails to reach host 209.165.201.254.





Which action can you take to correct the problem?

- A. Ensure that R2 has a default route in its routing table.
- B. Change the OSPF area type on R1 and R2.
- C. Edit the router configurations so that address 209.165.201.254 is a routable address.
- D. Remove the default-information originate command from the OSPF configuration of R2.

**Answer:** A

### QUESTION 322

Which statement about the overload bit in IS-IS is true?

- A. The IS-IS adjacencies on the links for which the overload bit is set are brought down.
- B. Routers running SPF ignore LSPs with the overload bit set and hence avoid blackholing traffic.
- C. A router setting the overload bit becomes unreachable to all other routers in the IS-IS area.
- D. The overload bit in IS-IS is used only for external prefixes.

**Answer:** B

**QUESTION 323**

Refer to the exhibit. Which statement is true?

```
R2#show ip mroute 225.1.1.1
(*, 225.1.1.1), 01:32:54/00:03:06, RP 10.100.1.2, flags: SJC
 Incoming interface: Ethernet1/0, RPF nbr 10.1.3.2
 Outgoing interface list:
 Ethernet3/0, Forward/Sparse, 01:32:54/00:03:06

(10.1.4.7, 225.1.1.1), 01:32:54/00:01:05, flags: JT
 Incoming interface: Ethernet1/0, RPF nbr 10.1.3.2
 Outgoing interface list:
 Ethernet3/0, Forward/Sparse, 00:37:38/00:02:26, A
```

- A. R2 is directly connected to the receiver for this group and is the winner of an assert mechanism.
- B. R2 is directly connected to the receiver for this group, and it forwards the traffic onto Ethernet3/0, but it is forwarding duplicate traffic onto Ethernet3/0.
- C. R2 has the A flag (Accept flag) set on Ethernet 3/0. This is fine, since the group is in BIDIR PIM mode.
- D. R2 is directly connected to the receiver for this group and is the loser of an assert mechanism.
- E. The A flag is set until the SPT threshold is reached for this multicast group.

**Answer:** A

**QUESTION 324**

Which three statements about IS-IS are true? (Choose three.)

- A. IS-IS is not encapsulated in IP.
- B. IS-IS is directly encapsulated in the data link layer.
- C. 0xFEFE is used in the Layer 2 header to identify the Layer 3 protocol.
- D. IS-IS uses protocol ID 93.
- E. IS-IS can be used to route the IPX protocol.
- F. IS-IS is an IETF standard.

**Answer:** ABC

**QUESTION 325**

Refer to the exhibit. Which statement is true?

```
PE1#show ip rpf 10.100.1.4
RPF information for ? (10.100.1.4)
 RPF interface: Ethernet1/0
 RPF neighbor: ? (10.1.1.4)
 RPF route/mask: 10.100.1.4/32
 RPF type: multicast (isis)
 Doing distance-preferred lookups across tables
 RPF topology: ipv4 multicast base
```

- A. The command `ip multicast rpf mult topology` is missing from the configuration.
- B. Multitopology routing for multicast has been enabled for IS-IS.
- C. This output is invalid.
- D. The command `mpls traffic-eng multicast-intact` is configured on this router.

**Answer: B**

**QUESTION 326**

As a best practice, when a router is configured as an EIGRP Stub, which routes should be received from its distribution neighbor?

- A. the default route
- B. static routes
- C. internal routes only
- D. internal and external routes

**Answer: A**

**QUESTION 327**

Which BGP feature allows BGP routing tables to be refreshed without impacting established BGP sessions?

- A. BGP synchronization
- B. soft reconfiguration
- C. confederations
- D. hard reset

**Answer: B**

**QUESTION 328**

Which two options describe two functions of a neighbor solicitation message? (Choose two.)

- A. It requests the link-layer address of the target.
- B. It provides its own link-layer address to the target.
- C. It requests the site-local address of the target.
- D. It provides its own site-local address to the target.
- E. It requests the admin-local address of the target.
- F. It provides its own admin-local address to the target.

**Answer: AB**

**QUESTION 329**

Which three options are three of the default EIGRP administrative distances? (Choose three.)

- A. Internal, 90
- B. External, 170
- C. Summary, 5

- D. Outside Local, 100
- E. Inside Local, 180
- F. Inside Global, 1

**Answer:** ABC

**QUESTION 330**

Refer to the exhibit. Which two statements about this route table are true? (Choose two.)

```
O E2 172.17.108.128/25
 [110/20] via 10.169.73.12, 3d07h, TenGigabitEthernet8/0/0
O E2 10.167.111.216/29
 [110/20] via 10.169.73.12, 3d07h, TenGigabitEthernet8/0/0
O IA 10.68.2.0/31
 [110/489] via 10.169.73.12, 3d07h, TenGigabitEthernet8/0/0
O IA 10.68.2.2/31
 [110/488] via 10.169.73.12, 3d07h, TenGigabitEthernet8/0/0
B 10.1.50.0/24 [200/0] via 172.16.189.9, 3d07h
B 10.1.51.0/24 [200/0] via 172.16.189.9, 3d07h
```

- A. The BGP routes are internal.
- B. The OSPF routes with the E2 flag retain the same metric as they leave the router.
- C. The OSPF routes with the IA flag have their administrative distances incremented as they leave the router.
- D. The BGP routes are external.
- E. The OSPF routes with the E2 flag have their metrics incremented as they leave the router.

**Answer:** AB

**QUESTION 331**

Refer to the exhibit. Which two statements about this configuration are true? (Choose two.)

```
interface GigabitEthernet0/1
 ip address 192.168.1.5 255.255.255.0
 prefix-list FILTER seq 5 permit 172.16.0.0/16
 prefix-list FILTER seq 10 permit 0.0.0.0/0
 router eigrp 65000
 no auto-summary
 network 192.168.1.5 0.0.0.0
 distribute-list prefix FILTER out
```

- A. It allows 172.16.0.0/16 to be distributed into EIGRP.
- B. It allows a default route to be distributed into EIGRP.
- C. It allows 172.16.0.0/16 and larger subnets to be distributed into EIGRP.
- D. It prevents 172.16.0.0/16 from being distributed into EIGRP.
- E. It prevents a default route from being distributed into EIGRP.
- F. It creates summary routes and injects them into EIGRP.

**Answer:** AB

**QUESTION 332**

Refer to the exhibit. R1 is able to reach only some of the subnets that R2 is advertising. Which two configuration changes can you make to ensure that R1 can reach all routes from R2? (Choose two.)

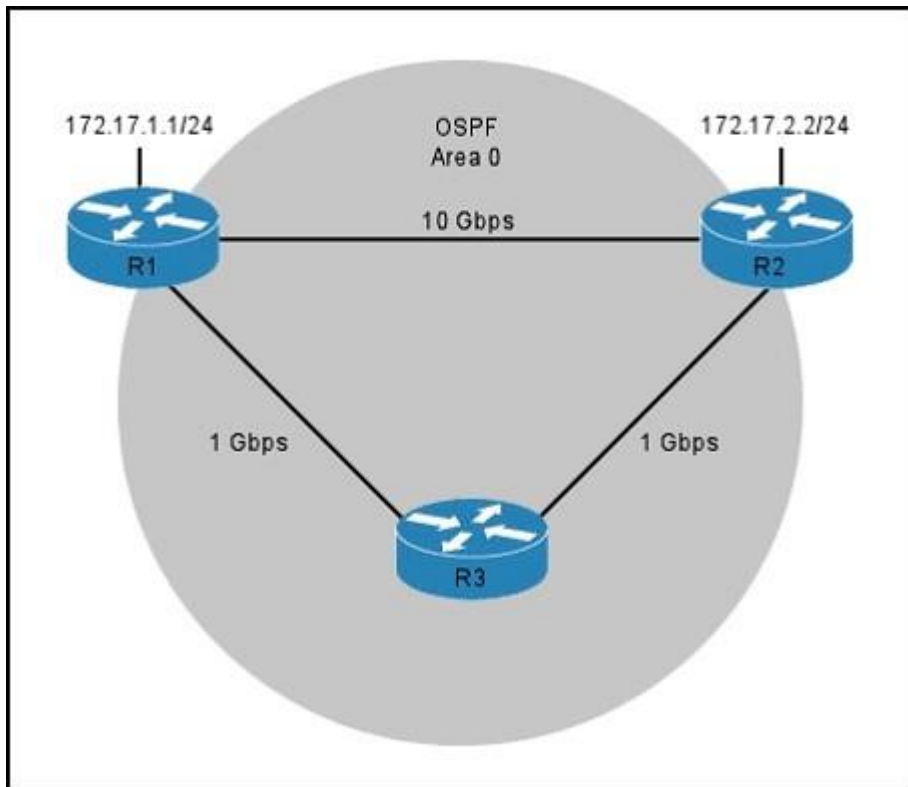
```
R2
interface Loopback2
 ip address 172.16.2.2 255.255.255.0
interface Loopback3
 ip address 172.16.3.3 255.255.255.0
interface Loopback4
 ip address 172.16.5.4 255.255.255.0
interface GigabitEthernet1/0
 ip address 10.0.78.8 255.255.255.0
 ip router isis
router isis
 net 49.0001.0031.0031.00
 redistribute connected route-map LOOPBACKS
ip access-list standard LOOPBACKS
 permit 172.16.0.0 0.0.3.255
route-map LOOPBACKS permit 10
 match ip address LOOPBACKS
```

- A. Add an additional permit statement to the LOOPBACKS route map.
- B. Modify the LOOPBACKS access list to include all loopback subnets.
- C. Add an additional statement in the LOOPBACKS route map to match both Level 1 and Level 2 circuits.
- D. Add an additional statement in the LOOPBACKS route map to match the R1 CLNS address.
- E. Configure the interfaces between R1 and R2 with a Level 1 IS-IS circuit.
- F. Configure the interfaces between R1 and R2 with a Level 2 IS-IS circuit.

**Answer:** AB

**QUESTION 333**

Refer to the exhibit. R1, R2, and R3 have full network connectivity to each other, but R2 prefers the path through R3 to reach network 172.17.1.0/24. Which two actions can you take so that R2 prefers the path through R1 to reach 172.17.1.0/24? (Choose two.)



- A. Set the reference bandwidth to 10000 on R1, R2, and R3.
- B. Configure the cost on the link between R1 and R3 to be greater than 100 Mbps.
- C. Set the reference bandwidth on R2 only.
- D. Configure a manual bandwidth statement with a value of 1 Gbps on the link between R1 and R3.
- E. Modify the cost on the link between R1 and R2 to be greater than 10 Gbps.
- F. Configure a manual bandwidth statement with a value of 100 Mbps on the link between R1 and R2.

**Answer:** AB

#### QUESTION 334

What are two advantages to using Asynchronous mode instead of Demand mode for BFD?  
(Choose two.)

- A. Asynchronous mode requires half as many packets as Demand mode for failure detection.
- B. Asynchronous mode can be used in place of the echo function.
- C. Asynchronous mode supports a larger number of BFD sessions.
- D. Asynchronous mode requires one fourth as many packets as Demand mode for failure detection.
- E. Asynchronous mode's round-trip jitter is less than that of Demand mode.

**Answer:** AB

#### QUESTION 335

Which action does route poisoning take that serves as a loop-prevention method?

- A. It immediately sends routing updates with an unreachable metric to all devices.



- B. It immediately sends routing updates with a metric of 255 to all devices.
- C. It prohibits a router from advertising back onto the interface from which it was learned.
- D. It advertises a route with an unreachable metric back onto the interface from which it was learned.
- E. It poisons the route by tagging it uniquely within the network.

**Answer:** A

**QUESTION 336**

Which two statements about the ipv6 ospf authentication command are true? (Choose two.)

- A. The command is required if you implement the IPsec AH header.
- B. The command configures an SPI.
- C. The command is required if you implement the IPsec TLV.
- D. The command can be used in conjunction with the SPI authentication algorithm.
- E. The command must be configured under the OSPFv3 process.

**Answer:** AB

**QUESTION 337**

Which two statements about SoO checking in EIGRP OTP deployments are true? (Choose two).

- A. During the import process, the SoO value in BGP is checked against the SoO value of the site map.
- B. During the reception of an EIGRP update, the SoO value in the EIGRP update is checked against the SoO value of the site map on the ingress interface.
- C. At the ingress of the PE/CE link, the SoO in the EIGRP update is checked against the SoO within the PE/CE routing protocol.
- D. At the egress of the PE/CE link, the SoO is checked against the SoO within the PE/CE routing protocol.
- E. The SoO is checked at the ingress of the backdoor link.
- F. The SoO is checked at the egress of the backdoor link.

**Answer:** AB

**QUESTION 338**

Which two OSPF LSA types are flooded within the originating area? (Choose two.)

- A. type 1, Router LSA
- B. type 2, Network LSA
- C. type 3, Network Summary LSA
- D. type 4, ASBR Summary LSA
- E. type 6, Group Membership LSA
- F. type 9, Opaque LSA

**Answer:** AB

**QUESTION 339**

Which statement about the OSPF Loop-Free Alternate feature is true?

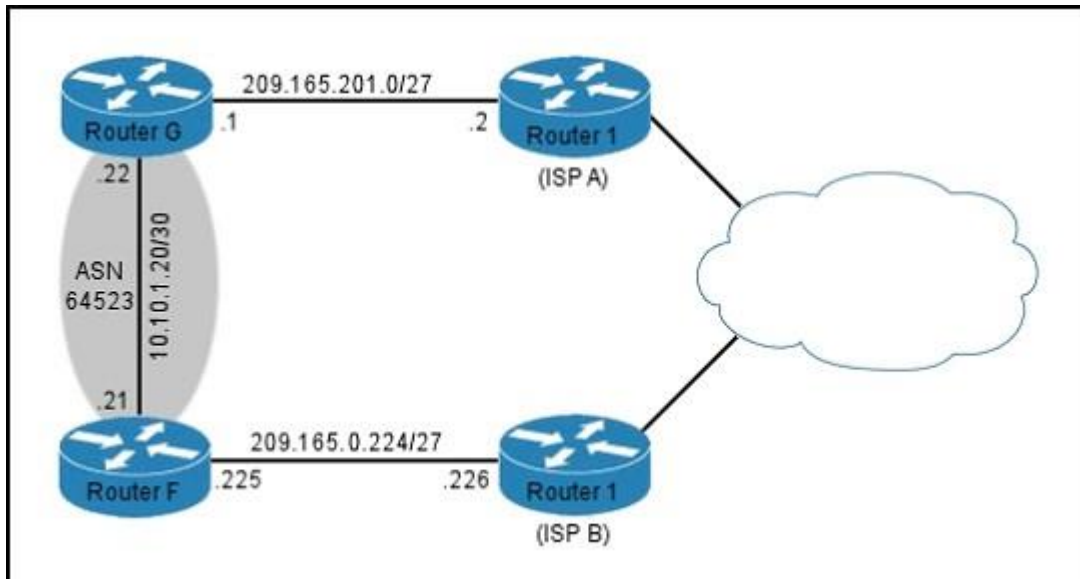
- A. It is supported on routers that are configured with virtual links.

- B. It is supported in VRF OSPF instances.
- C. It is supported when a traffic engineering tunnel interface is protected.
- D. It is supported when traffic can be redirected to a primary neighbor.

**Answer: B**

**QUESTION 340**

Refer to the exhibit. ASN 64523 has a multihomed BGP setup to ISP A and ISP B. Which BGP attribute can you set to allow traffic that originates in ASN 64523 to exit the ASN through ISP B?



- A. origin
- B. next-hop
- C. weight
- D. multi-exit discriminator

**Answer: D**

**QUESTION 341**

When deploying redundant route reflectors in BGP, which attribute can you configure on the route reflector to allow routes to be identified as belonging to the same group?

- A. ROUTER\_ID
- B. CLUSTER\_ID
- C. ORIGINATOR\_ID
- D. PEER\_GROUP

**Answer: B**

**QUESTION 342**

Refer to the exhibit. R1 and R2 have a working VRF-Lite configuration, but R1 is receiving a route only to 10.2.2.2 from R2.

Which two changes can you make so that R1 receives all routes from R2? (Choose two.)

```
R1
ip vrf VPN
 rd 1:1
 import-map INBOUND
 route-target both 1:1
interface GigabitEthernet0/0
 ip vrf forwarding VPN
 ip address 192.168.0.1 255.255.255.0
access-list 10 5 permit 192.168.0.0 255.255.0.0
access-list 10 10 permit 10.2.2.2 255.255.255.255
route-map INBOUND 10
 match ip address 10
router ospf 1 vrf VPN
 network 192.168.0.0 0.0.0.255 area 0

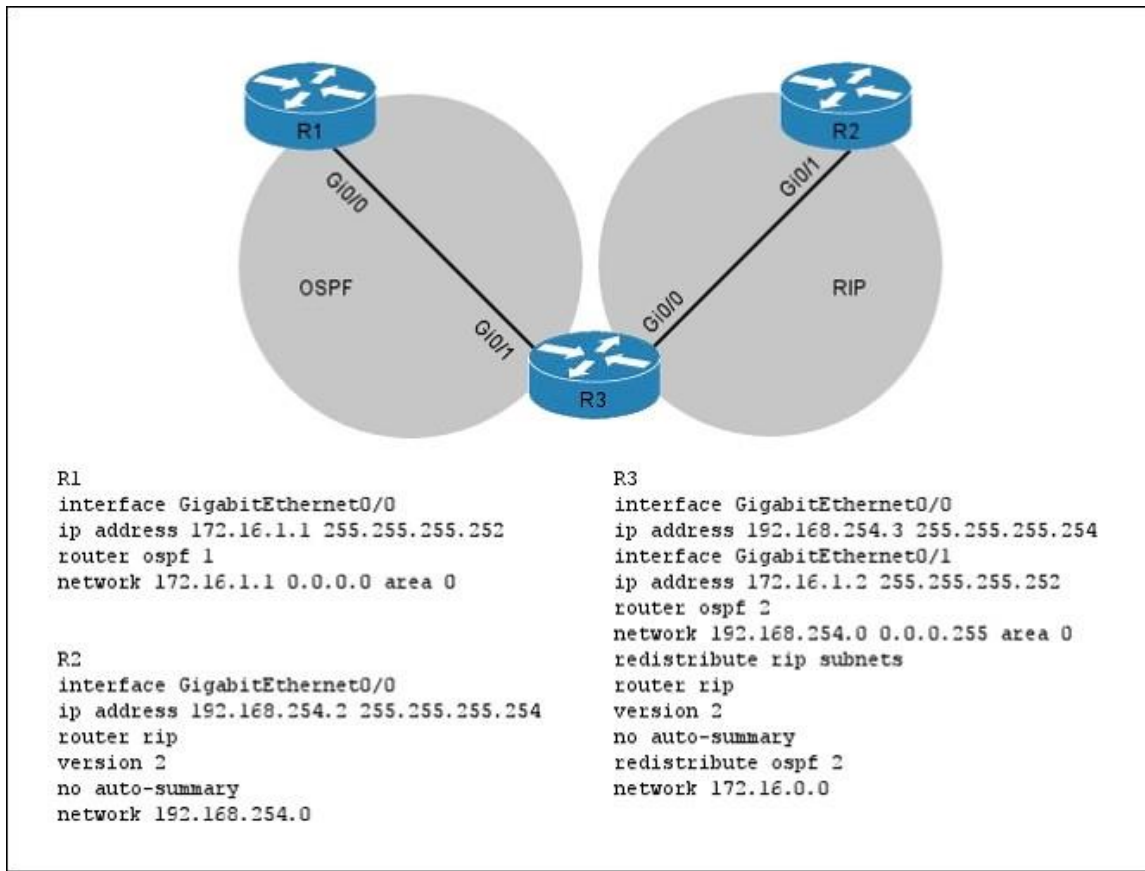
R2
ip vrf VPN
 rd 1:1
 route-target both 1:1
interface Loopback1
 ip vrf forwarding VPN
 ip address 10.1.1.1 255.255.255.0
interface Loopback1
 ip vrf forwarding VPN
 ip address 10.2.2.2 255.255.255.0
interface Loopback2
 ip vrf forwarding VPN
 ip address 10.3.3.3 255.255.255.0
interface GigabitEthernet0/0
 ip vrf forwarding VPN
 ip address 192.168.0.2 255.255.255.0
router ospf 2 vrf VPN
 network 192.168.0.0 0.0.0.255 area 0
 network 10.1.1.1 0.0.0.0 area 0
 network 10.2.2.2 0.0.0.0 area 0
 network 10.3.3.0 0.0.0.15 area 0
```

- A. Create an additional permit statement in the access list that is referenced by the import-map on R1.
- B. Disable VRF filtering on R1.
- C. Set the R1 and R2 OSPF process IDs to match.
- D. Change the wildcard mask for the network 10.3.3.0 to 0.0.0.0.
- E. Create a matching export map in the VRF for R2.

**Answer:** AB

#### QUESTION 343

Refer to the exhibit. R2 is unable to access the 172.16.1.0/30 network between R1 and R3. Which option is a possible reason for the failure?



- A. The seed metric for redistributing into RIP on R3 is missing.
- B. The OSPF processes on R2 and R3 are different.
- C. Auto-summary is misconfigured under the RIP process of R3.
- D. The subnet mask on the link between R2 and R3 is smaller than /30.
- E. The wildcard mask on R3 is misconfigured.

**Answer: A**

#### QUESTION 344

Which two options are mandatory components of a multiprotocol BGP VPN-IPv4 address? (Choose two.)

- A. a route distinguisher
- B. an IPv4 address
- C. a route target
- D. an MPLS label
- E. a system ID
- F. an area ID

**Answer: AB**

#### QUESTION 345

Which BGP feature enables you to install a backup path in the forwarding table?

- A. soft reconfiguration
- B. prefix independent convergence
- C. route refresh
- D. synchronization

**Answer: B**

**QUESTION 346**

Refer to the exhibit. Which statement is true about a valid IPv6 address that can be configured on interface tunnel0?

```
interface tunnel0
 tunnel mode ipv6ip 6to4
 tunnel source 125.203.89.1
 ipv6 address ?
```

- A. There is not enough information to calculate the IPv6 address.
- B. 6to4 tunneling allows you to use any IPv6 address.
- C. 2001.7DCB.5901. . /128 is a valid IPv6 address.
- D. 2002.7DCB.5901. . /128 is a valid IPv6 address.

**Answer: D**

**QUESTION 347**

Which technology is not necessary to set up a basic MPLS domain?

- A. IP addressing
- B. an IGP
- C. LDP or TDP
- D. CEF
- E. a VRF

**Answer: E**

**QUESTION 348**

What is the main component of Unified MPLS?

- A. Multiple IGPs in the network are used, where the loopback IP addresses of the PE routers are aggregated on the area border routers.
- B. Confederations are used to provide scalability.
- C. The loopback prefixes from one IGP area are redistributed into BGP without changing the next hop.
- D. The ABR is a BGP route reflector and sets next-hop to self for all reflected routes.

**Answer: D**

**QUESTION 349**

For which feature is the address family "rtfilter" used?

- A. Enhanced Route Refresh
- B. MPLS VPN filtering
- C. Route Target Constraint
- D. Unified MPLS

**Answer: C**

**QUESTION 350**

Refer to the exhibit. What does the return code 3 represent in this output?

```
Codes: '.' - success, 'Q' - request not sent, '.' - timeout,
 'L' - labeled output interface, 'B' - unlabeled output interface,
 'D' - DS Map mismatch, 'F' - no FEC mapping, 'f' - FEC mismatch,
 'M' - malformed request, 'm' - unsupported tlvs, 'N' - no label entry,
 'P' - no rx intf label prot, 'p' - premature termination of LSP,
 'R' - transit router, 'I' - unknown upstream index,
 'X' - unknown return code, 'x' - return code 0

Type escape sequence to abort.
! size 100, reply addr 70.169.72.33, return code 3
! size 100, reply addr 70.169.72.33, return code 3
! size 100, reply addr 70.169.72.33, return code 3
! size 100, reply addr 70.169.72.33, return code 3
! size 100, reply addr 70.169.72.33, return code 3

Success rate is 100 percent (5/5), round-trip min/avg/max = 4/4/4 ms
```

- A. The mapping of the replying router for the FEC is different.
- B. The packet is label-switched at stack depth.
- C. The return code is reserved.
- D. The upstream index is unknown.
- E. The replying router was the proper egress for the FEC.

**Answer: E**

**QUESTION 351**

Which two values comprise the VPN ID for an MPLS VPN? (Choose two.)

- A. an OUI
- B. a VPN index
- C. a route distinguisher
- D. a 16-bit AS number
- E. a 32-bit IP address

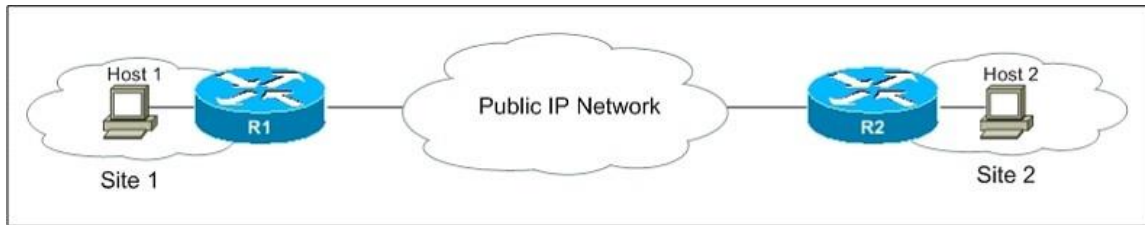
**Answer: AB**

**QUESTION 352**

Refer to the exhibit. Which LISP component do routers in the public IP network use to forward



traffic between the two networks?



- A. EID
- B. RLOC
- C. map server
- D. map resolver

**Answer: B**

#### QUESTION 353

Refer to the exhibit. Which device role could have generated this debug output?

```
NHRP: Send Registration Request via Tunnel1 vrf 0, packet size: 108
src: 172.30.10.66, dst: 172.30.10.1
(F) afn: AF_IP(1), type: IP(800), hop: 255, ver: 1
 shtl: 4(NSAP), sstl: 0(NSAP)
 pktsz: 108 extoff: 52
(M) flags: "unique nat ", reqid: 113922
 src NBMA: 10.100.100.193
 src protocol: 172.30.10.66, dst protocol: 172.30.10.1
(C-1) code: no error(0)
 prefix: 32, mtu: 17912, hd_time: 600
 addr_len: 0(NSAP), subaddr_len: 0(NSAP), proto_len: 0, pref: 0
NHRP: Receive Registration Reply via
 addr_len: 0(NSAP), subaddr_len: 0(NSAP), proto_len: 0, pref: 0
```

- A. an NHS only
- B. an NHC only
- C. an NHS or an NHC
- D. a DMVPN hub router

**Answer: B**

#### QUESTION 354

Which statement about the NHRP network ID is true?

- A. It is sent from the spoke to the hub to identify the spoke as a member of the same NHRP domain.
- B. It is sent from the hub to the spoke to identify the hub as a member of the same NHRP domain.
- C. It is sent between spokes to identify the spokes as members of the same NHRP domain.
- D. It is a locally significant ID used to define the NHRP domain for an interface.

**Answer: D**

**QUESTION 355**

You are configuring a DMVPN spoke to use IPsec over a physical interface that is located within a VRF. For which three configuration sections must you specify the VRF name? (Choose three.)

- A. the ISAKMP profile
- B. the crypto keyring
- C. the IPsec profile
- D. the IPsec transform set
- E. the tunnel interface
- F. the physical interface

**Answer: BEF**

**QUESTION 356**

Which IPv6 prefix is used for 6to4 tunnel addresses?

- A. 2001. . /23
- B. 2002. . /16
- C. 3ffe. . /16
- D. 5f00. . /8
- E. 2001. . /32

**Answer: B**

**QUESTION 357**

When you configure the ip pmtu command under an L2TPv3 pseudowire class, which two things can happen when a packet exceeds the L2TP path MTU? (Choose two.)

- A. The router drops the packet.
- B. The router always fragments the packet after L2TP/IP encapsulation.
- C. The router drops the packet and sends an ICMP unreachable message back to the sender only if the DF bit is set to 1.
- D. The router always fragments the packet before L2TP/IP encapsulation.
- E. The router fragments the packet after L2TP/IP encapsulation only if the DF bit is set to 0.
- F. The router fragments the packet before L2TP/IP encapsulation only if the DF bit is set to 0.

**Answer: CF**

**QUESTION 358**

Which two parameters does the Tunnel Mode Auto Selection feature select automatically? (Choose two.)

- A. the tunneling protocol
- B. the transport protocol
- C. the ISAKMP profile
- D. the transform-set

E. the tunnel peer

**Answer:** AB

**QUESTION 359**

By default, how does a GET VPN group member router handle traffic when it is unable to register to a key server?

- A. All traffic is queued until registration is successful or the queue is full.
- B. All traffic is forwarded through the router unencrypted.
- C. All traffic is forwarded through the router encrypted.
- D. All traffic through the router is dropped.

**Answer:** B

**QUESTION 360**

Which two protocols are not protected in an edge router by using control plane policing? (Choose two.)

- A. SMTP
- B. RPC
- C. SSH
- D. Telnet

**Answer:** AB

**QUESTION 361**

Which two statements are true about AAA? (Choose two.)

- A. AAA can use RADIUS, TACACS+, or Windows AD to authenticate users.
- B. If RADIUS is the only method configured in AAA, and the server becomes unreachable, the user will be able to log in to the router using a local username and password.
- C. If the local keyword is not included and the AAA server does not respond, then authorization will never be possible and the connection will fail.
- D. AAA can be used to authenticate the enable password with a AAA server.

**Answer:** CD

**QUESTION 362**

Which three types of traffic are allowed by IEEE 802.1X access control prior to getting authenticated? (Choose three.)

- A. EAPOL
- B. VTP
- C. STP
- D. ARP
- E. CDP
- F. HTTP

**Answer:** ACE

**QUESTION 363**

Which two statements about MAC ACLs are true? (Choose two.)

- A. They support only inbound filtering.
- B. They support both inbound and outbound filtering.
- C. They are configured with the command `mac access-list standard`.
- D. They can filter non-IP traffic on a VLAN and on a physical interface.

**Answer:** AD

**QUESTION 364**

Refer to the exhibit. What happens to packets when traffic in the `icmp-class` class exceeds the policed amount?

```
Router#sh policy-map control-plane
Control Plane

Service-policy output: control-plane-out

Class-map: icmp-class (match-all)
 197314985 packets, 11510114428 bytes
 5 minute offered rate 1000 bps, drop rate 0000 bps
 Match: access-group name killicmpv2
 police:
 cir 1000000 bps, bc 31250 bytes
 conformed 197138885 packets, 11499818077 bytes; actions:
 transmit
 exceeded 176100 packets, 10296351 bytes; actions:
 drop
 conformed 1000 bps, exceed 0000 bps

Class-map: class-default (match-any)
 1126224901 packets, 158790413979 bytes
 5 minute offered rate 41000 bps, drop rate 0000 bps
 Match: any
```

- A. Packets are discarded and a message is logged.
- B. Packets are discarded and a trap is sent to any servers that are configured to receive traps.
- C. Packets are discarded silently.
- D. Packets are discarded and an inform is sent to any servers that are configured to receive informs.

**Answer:** C

**QUESTION 365**

Which statement describes Cisco PfR link groups?

- A. Link groups enable Cisco PfR Fast Reroute when NetFlow is enabled on the external interfaces of the border routers.

- B. Link groups define a strict or loose hop-by-hop path preference.
- C. Link groups are required only when Cisco PfR is configured to load-balance all traffic.
- D. Link groups are enabled automatically when Cisco PfR is in Fast Reroute mode.
- E. Link groups set a preference for primary and fallback (backup) external exit interfaces.

**Answer:** E

**QUESTION 366**

Which two statements about NetFlow are true? (Choose two.)

- A. It must be configured on each router in a network.
- B. It supports ATM LAN emulation.
- C. The existing network is unaware that NetFlow is running.
- D. It uses SIP to establish sessions between neighbors.
- E. It provides resource utilization accounting.

**Answer:** CE

**QUESTION 367**

You are installing a new device to replace a device that failed. The configuration of the failed device is stored on a networked server, and the new device has an RXBOOT image installed. Under which condition does the streamlined Setup mode fail?

- A. The last four bits of the configuration register are not equal to the decimal value 0 or 1.
- B. The startup configuration file was deleted.
- C. Bit 6 is set in the configuration register.
- D. The startup configuration is corrupt.

**Answer:** A

**QUESTION 368**

Which option is the Cisco recommended method to secure access to the console port?

- A. Configure the activation-character command.
- B. Configure a very short timeout (less than 100 milliseconds) for the port.
- C. Set the privilege level to a value less than 15.
- D. Configure an ACL.

**Answer:** A

**QUESTION 369**

Refer to the exhibit. If the network switch is configured as shown, which two statements about network traffic are true? (Choose two.)

```
class-map match-any voice
match dscp ef
class-map match-any router
match dscp cs6
class-map match-any gold
match dscp af41
class-map match-any silver
match dscp af31

policy-map egress_queue
class voice
priority percent 25
class gold
bandwidth percent 40
class silver
bandwidth percent 15
class router
bandwidth percent 5
class class-default
bandwidth percent remaining

policy-map egress_queue_2
class class-default
shape average 6000000
service-policy egress_queue

interface GigabitEthernet0/1
service-policy output egress_queue_2
```

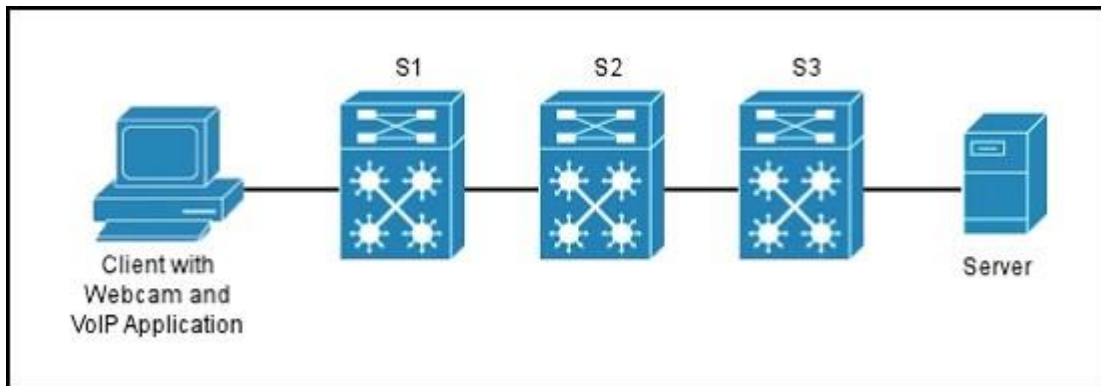
- A. Traffic enters the shaper on a FIFO basis.
- B. Traffic enters the shaper on a weighted fair queueing basis.
- C. Drop behavior is random for traffic in excess of 6 Mbps.
- D. Voice traffic is given priority until it reaches 1.5 Mbps.
- E. Voice traffic is given priority until it reaches 6 Mbps.

**Answer:** AD

#### QUESTION 370

Refer to the exhibit. You are configuring the S1 switch for the switchport connecting to the client computer. Which option describes the effect of the command `mls qos map cos-dscp 0 8 16 24 32 40 46 56`?





- A. Voice traffic is excluded from the default priority queue.
- B. Voice packets are given a class selector of 5.
- C. Video conferencing is marked CS3.
- D. Voice packets are processed in the priority queue.

**Answer: A**

**QUESTION 371**

Which two options are two characteristics of the HSRPv6 protocol? (Choose two.)

- A. It uses virtual MAC addresses 0005.73a0.0000 through 0005.73a0.0fff.
- B. It uses UDP port number 2029.
- C. It uses virtual MAC addresses 0005.73a0.0000 through 0005.73a0.ffff.
- D. It uses UDP port number 2920.
- E. If a link local IPv6 address is used, it must have a prefix.

**Answer: AB**

**QUESTION 372**

Which statement about VRRP is true?

- A. It supports load balancing.
- B. It can be configured with HSRP on a switch or switch stack.
- C. It supports IPv4 and IPv6.
- D. It supports encrypted authentication.

**Answer: B**

**QUESTION 373**

Refer to the exhibit. What is the polling frequency set by this configuration?

```
ip sla monitor 10
 type echo protocol ipIcmpEcho 10.1.1.1 source-ipaddr 10.1.1.2
 frequency 60

ip sla monitor schedule 10 life 360
```

- A. 60 seconds
- B. 10 seconds
- C. 360 seconds
- D. 60 milliseconds
- E. 10 milliseconds

**Answer:** A

**QUESTION 374**

Refer to the exhibit. Which additional information must you specify in this configuration to capture NetFlow traffic?

```
configure terminal
 interface Ethernet 0/0
 ip address 10.1.1.2 255.255.255.0
 ip flow-export destination 10.1.1.1
```

- A. ingress or egress traffic
- B. the number of cache entries
- C. the flow cache active timeout
- D. the flow cache inactive timeout

**Answer:** A

**QUESTION 375**

For which three routing protocols can Cisco PfR provide direct route control? (Choose three.)

- A. OSPF
- B. ISIS
- C. BGP
- D. EIGRP
- E. static routing
- F. ODR

**Answer:** CDE

**QUESTION 376**

Drag and Drop Question

Drag and drop the BGP attribute on the left to the correct category on the right.

|                  |                                      |
|------------------|--------------------------------------|
| Local-Pref       | BGP Well-Known Mandatory Attribute   |
| Community        | Target                               |
| Atomic-Aggregate | BGP Optional Nontransitive Attribute |
| AS_path          | Target                               |
| Cluster List     | Target                               |
| Originator ID    | BGP Optional Transitive Attribute    |
|                  | Target                               |

**Answer:**

Drag and drop the BGP attribute on the left to the correct category on the right.

|                  |                                      |
|------------------|--------------------------------------|
| Local-Pref       | BGP Well-Known Mandatory Attribute   |
| Community        | AS_path                              |
| Atomic-Aggregate | BGP Optional Nontransitive Attribute |
| AS_path          | Originator ID                        |
| Cluster List     | Cluster List                         |
| Originator ID    | BGP Optional Transitive Attribute    |
|                  | Community                            |

### QUESTION 377

Drag and Drop Question

Drag and drop the NAT operations on the left into the correct sequential order on the right.

Drag and drop the NAT operations on the left into the correct sequential order on the right.

|                                           |        |
|-------------------------------------------|--------|
| Check the IP routing table.               | step 1 |
| Check the outbound access list.           | step 2 |
| Check the inbound access list.            | step 3 |
| Inspect CBAC.                             | step 4 |
| Translate inside local to outside global. | step 5 |
| Check the policy routing                  | step 6 |

**Answer:**

Drag and drop the NAT operations on the left into the correct sequential order on the right.

|                                           |                                           |
|-------------------------------------------|-------------------------------------------|
| Check the IP routing table.               | Check the inbound access list.            |
| Check the outbound access list.           | Check the policy routing.                 |
| Check the inbound access list.            | Check the IP routing table.               |
| Inspect CBAC.                             | Translate inside local to outside global. |
| Translate inside local to outside global. | Check the outbound access list.           |
| Check the policy routing.                 | Inspect CBAC.                             |

### QUESTION 378

#### Drag and Drop Question

Drag and drop the argument of the **ip cef load-sharing algorithm** command on the left to the function it performs on the right.

|                                  |                                                                                                                   |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------|
| original                         | sets the load-balancing algorithm to use a source, a destination, and an ID hash                                  |
| universal                        | sets the load-balancing algorithm for environments with a small number of source and destination IP address pairs |
| tunnel                           | sets the load-balancing algorithm to use Layer 4 information                                                      |
| include-ports source destination | sets the load-balancing algorithm to use a source and destination hash                                            |

#### Answer:

Drag and drop the argument of the **ip cef load-sharing algorithm** command on the left to the function it performs on the right.

|                                  |                                  |
|----------------------------------|----------------------------------|
| original                         | universal                        |
| universal                        | tunnel                           |
| tunnel                           | include-ports source destination |
| include-ports source destination | original                         |

### QUESTION 379

#### Drag and Drop Question

Drag and drop the Cisco IOX XE subpackage on the left to the function it performs on the right.

|            |                                                                                                  |
|------------|--------------------------------------------------------------------------------------------------|
| RPIOS      | provisions the Cisco IOS Software kernel from which the IOS software features are housed and run |
| ESPBase    | produces the ESP software, ESP operating system, and control processes                           |
| SIPBase    | manages the Cisco IOS Software and the rest of the platform via the control plane                |
| RPCControl | manages the Session Initiation Protocol carrier card operating system and control processes      |

#### Answer:

Drag and drop the Cisco IOX XE subpackage on the left to the function it performs on the right.

|            |            |
|------------|------------|
| RPIOS      | RPIOS      |
| ESPBase    | ESPBase    |
| SIPBase    | RPCControl |
| RPCControl | SIPBase    |

### QUESTION 380

Drag and Drop Question

Drag and drop the LACP elements on the left into the correct priority order in the hot-standby port-selection process on the right.

|                      |   |
|----------------------|---|
| switch MAC address   | 1 |
| port number          | 2 |
| LACP system priority | 3 |
| LACP port priority   | 4 |

**Answer:**

Drag and drop the LACP elements on the left into the correct priority order in the hot-standby port-selection process on the right.

|                      |                      |
|----------------------|----------------------|
| switch MAC address   | LACP system priority |
| port number          | switch MAC address   |
| LACP system priority | LACP port priority   |
| LACP port priority   | port number          |

### QUESTION 381

Drag and Drop Question

Drag and drop the RIP configuration command on the left to the function it performs on the right.

|                               |                                                                                     |
|-------------------------------|-------------------------------------------------------------------------------------|
| ip rip triggered              | controls the advertisement of routes on an interface                                |
| default-information originate | divides traffic among routes with the lowest cost                                   |
| ip split-horizon              | configures the router to send information only when the routing database is updated |
| traffic-share min             | configures the router to source the network with RIP                                |

**Answer:**

Drag and drop the RIP configuration command on the left to the function it performs on the right.

|                               |                               |
|-------------------------------|-------------------------------|
| ip rip triggered              | ip split-horizon              |
| default-information originate | traffic-share min             |
| ip split-horizon              | ip rip triggered              |
| traffic-share min             | default-information originate |

### QUESTION 382

Drag and Drop Question

Drag and drop each step in the performance-monitoring configuration process on the left into the correct order on the right.

|                                                                               |   |
|-------------------------------------------------------------------------------|---|
| Configure a policy with at least one performance-monitor type flow monitor.   | 1 |
| Configure a flow record.                                                      | 2 |
| Configure a class that describes the filtering criteria.                      | 3 |
| Associate a performance-monitor type policy with its corresponding interface. | 4 |
| Configure a flow monitor that includes the flow record and flow exporter.     | 5 |

**Answer:**

Drag and drop each step in the performance-monitoring configuration process on the left into the correct order on the right.

|                                                                               |                                                                               |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Configure a policy with at least one performance-monitor type flow monitor.   | Configure a flow record.                                                      |
| Configure a flow record.                                                      | Configure a flow monitor that includes the flow record and flow exporter.     |
| Configure a class that describes the filtering criteria.                      | Configure a class that describes the filtering criteria.                      |
| Associate a performance-monitor type policy with its corresponding interface. | Configure a policy with at least one performance-monitor type flow monitor.   |
| Configure a flow monitor that includes the flow record and flow exporter.     | Associate a performance-monitor type policy with its corresponding interface. |

### QUESTION 383

Drag and Drop Question



| Drag and drop each EIGRP element on the left to the corresponding definition on the right. |                                                                                      |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Feasibility Condition                                                                      | the metric for a route advertised by EIGRP                                           |
| Feasible Distance                                                                          | the lowest sum of the EIGRP metric and the metric used to reach the next hop         |
| Feasible Successor                                                                         | a route that could become the best path                                              |
| Neighbor Table                                                                             | the route currently in use as the best path                                          |
| Reported Distance                                                                          | a list of EIGRP devices that have a direct physical connection                       |
| Successor                                                                                  | the requirement that the RD of a new route is lower than the FD of the current route |

**Answer:**

| Drag and drop each EIGRP element on the left to the corresponding definition on the right. |                       |
|--------------------------------------------------------------------------------------------|-----------------------|
| Feasibility Condition                                                                      | Reported Distance     |
| Feasible Distance                                                                          | Feasible Distance     |
| Feasible Successor                                                                         | Feasible Successor    |
| Neighbor Table                                                                             | Successor             |
| Reported Distance                                                                          | Neighbor Table        |
| Successor                                                                                  | Feasibility Condition |

### QUESTION 384

Drag and Drop Question

| Drag and drop each BGP attribute on the left to the matching description on the right. |                                                                         |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| AS_PATH                                                                                | sets the value used to reach the advertising router                     |
| community                                                                              | an attribute whose value can affect the preferred path for eBGP peers   |
| LOCAL_PREF                                                                             | an attribute whose value is shared within iBGP                          |
| MED                                                                                    | supports values of IGP, EGP, and INCOMPLETE                             |
| NEXT_HOP                                                                               | a Cisco proprietary attribute that is local to the individual router    |
| origin                                                                                 | allows the administrator to customize path selection by grouping routes |
| weight                                                                                 | a list that shows the path through which a route has passed             |

**Answer:**

Drag and drop each BGP attribute on the left to the matching description on the right.

|            |            |
|------------|------------|
| AS_PATH    | NEXT_HOP   |
| community  | MED        |
| LOCAL_PREF | LOCAL_PREF |
| MED        | origin     |
| NEXT_HOP   | weight     |
| origin     | community  |
| weight     | AS_PATH    |

### QUESTION 385

Drag and Drop Question

Drag and drop each GET VPN feature on the left to the corresponding function it performs on the right.

|      |                                                                                  |
|------|----------------------------------------------------------------------------------|
| GDOI | uses pseudotime to prevent replay                                                |
| KEK  | encrypts the rekey message                                                       |
| SAR  | encrypts data between group members                                              |
| TEK  | handles communication between group members and a group controller or key server |

**Answer:**

Drag and drop each GET VPN feature on the left to the corresponding function it performs on the right.

|      |      |
|------|------|
| GDOI | SAR  |
| KEK  | KEK  |
| SAR  | TEK  |
| TEK  | GDOI |

### QUESTION 386

Drag and Drop Question

|                                                                                                                        |                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Drag and drop each SNMP security model and level on the left to the corresponding mode of authentication on the right. |                                                                         |
| SNMPv2c-noAuthNoPriv                                                                                                   | provides HMAC-MD5 or HMAC-SHA authentication with DES 56-bit encryption |
| SNMPv3-authNoPriv                                                                                                      | authenticates with a user name match                                    |
| SNMPv3-authPriv                                                                                                        | provides HMAC-MD5 or HMAC-SHA authentication without encryption         |
| SNMPv3-noAuthNoPriv                                                                                                    | authenticates with a community string match                             |

**Answer:**

|                                                                                                                        |                      |
|------------------------------------------------------------------------------------------------------------------------|----------------------|
| Drag and drop each SNMP security model and level on the left to the corresponding mode of authentication on the right. |                      |
| SNMPv2c-noAuthNoPriv                                                                                                   | SNMPv3-authPriv      |
| SNMPv3-authNoPriv                                                                                                      | SNMPv3-noAuthNoPriv  |
| SNMPv3-authPriv                                                                                                        | SNMPv3-authNoPriv    |
| SNMPv3-noAuthNoPriv                                                                                                    | SNMPv2c-noAuthNoPriv |

### QUESTION 387

Drag and Drop Question

|                                                                                                                                            |                    |
|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Drag and drop each description of IPv6 transition technology on the left to the matching IPv6 transition technology category on the right. |                    |
| encapsulates IPv6 packets within IPv4 packets                                                                                              | Dual-Stack Network |
| supports translation between IPv4 and IPv6 by using algorithms to map addresses                                                            |                    |
| supports stateful translation between IPv4 and IPv6 with static and manual mappings                                                        |                    |
| requires IPv6-capable infrastructure                                                                                                       | Tunneling          |
| uses routing protocols to maintain IPv4 and IPv6 routing adjacencies                                                                       |                    |
| encapsulates IPv4 packets within IPv6 packets                                                                                              |                    |
|                                                                                                                                            | NAT64              |
|                                                                                                                                            |                    |
|                                                                                                                                            |                    |

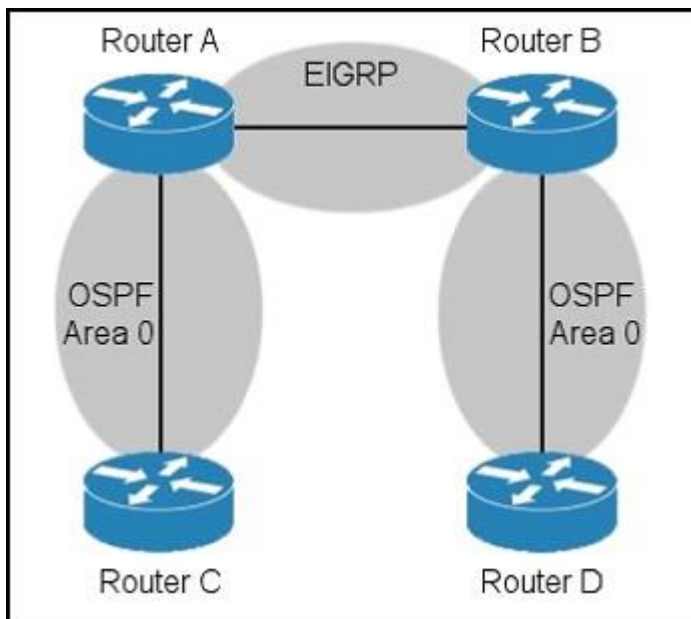
**Answer:**

Drag and drop each description of IPv6 transition technology on the left to the matching IPv6 transition technology category on the right.

|                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| encapsulates IPv6 packets within IPv4 packets                                       | Dual-Stack Network                                                                  |
| supports translation between IPv4 and IPv6 by using algorithms to map addresses     |                                                                                     |
| supports stateful translation between IPv4 and IPv6 with static and manual mappings |                                                                                     |
| requires IPv6-capable infrastructure                                                | Tunneling                                                                           |
| uses routing protocols to maintain IPv4 and IPv6 routing adjacencies                |                                                                                     |
| encapsulates IPv4 packets within IPv6 packets                                       | NAT64                                                                               |
|                                                                                     | requires IPv6-capable infrastructure                                                |
|                                                                                     | uses routing protocols to maintain IPv4 and IPv6 routing adjacencies                |
|                                                                                     | encapsulates IPv6 packets within IPv4 packets                                       |
|                                                                                     | encapsulates IPv4 packets within IPv6 packets                                       |
|                                                                                     | supports translation between IPv4 and IPv6 by using algorithms to map addresses     |
|                                                                                     | supports stateful translation between IPv4 and IPv6 with static and manual mappings |

#### QUESTION 388

Refer to the exhibit. Which action must you take to enable full reachability from router C to router D?



- A. Build an OSPF virtual link.
- B. Build an OSPF sham link.
- C. Configure mutual redistribution between OSPF and EIGRP on routers A and B.
- D. Add a static route on router D.

**Answer: C**

#### QUESTION 389

Which two Cisco Express Forwarding tables are located in the data plane? (Choose two.)

- A. the forwarding information base
- B. the label forwarding information base
- C. the IP routing table
- D. the label information table
- E. the adjacency table

**Answer:** AB

**QUESTION 390**

Which option is the most effective action to avoid packet loss due to microbursts?

- A. Implement larger buffers.
- B. Install a faster CPU.
- C. Install a faster network interface.
- D. Configure a larger tx-ring size.

**Answer:** A

**QUESTION 391**

Which two statements about packet fragmentation on an IPv6 network are true? (Choose two.)

- A. The fragment header is 64 bits long.
- B. The identification field is 32 bits long.
- C. The fragment header is 32 bits long.
- D. The identification field is 64 bits long.
- E. The MTU must be a minimum of 1280 bytes.
- F. The fragment header is 48 bits long.

**Answer:** AB

**QUESTION 392**

You are backing up a server with a 1 Gbps link and a latency of 2 ms. Which two statements about the backup are true? (Choose two.)

- A. The bandwidth delay product is 2 Mb.
- B. The default TCP send window size is the limiting factor.
- C. The default TCP receive window size is the limiting factor.
- D. The bandwidth delay product is 500 Mb.
- E. The bandwidth delay product is 50 Mb.

**Answer:** AC

**QUESTION 393**

Which two pieces of information does RTCP use to inform endpoint devices about the RTP flow? (Choose two.)

- A. the transmitted octet

- B. the lost packet count
- C. session control function provisioning information
- D. the CNAME for session participants
- E. the authentication method
- F. MTU size changes in the path of the flow

**Answer:** AB

**QUESTION 394**

Which two options are required parts of an EEM policy? (Choose two.)

- A. event register keyword
- B. body
- C. environment must defines
- D. namespace import
- E. entry status
- F. exit status

**Answer:** AB

**QUESTION 395**

Which two actions can you take to allow the greatest number of pertinent packets to be stored in the temporary buffer of Cisco IOS Embedded Packet Capture? (Choose two.)

- A. Specify the sampling interval.
- B. Specify the capture buffer type.
- C. Specify a reflexive ACL.
- D. Specify the minimum packet capture rate.
- E. Specify the packet size.
- F. Store the capture simultaneously onto an external memory card as the capture occurs.

**Answer:** AB

**QUESTION 396**

Which technology can be used to secure the core of an STP domain?

- A. UplinkFast
- B. BPDU guard
- C. BPDU filter
- D. root guard

**Answer:** D

**QUESTION 397**

What is the destination multicast MAC address for BPDUs on the native VLAN, for a switch that is running 802.1D?

- A. 0185.C400.0000

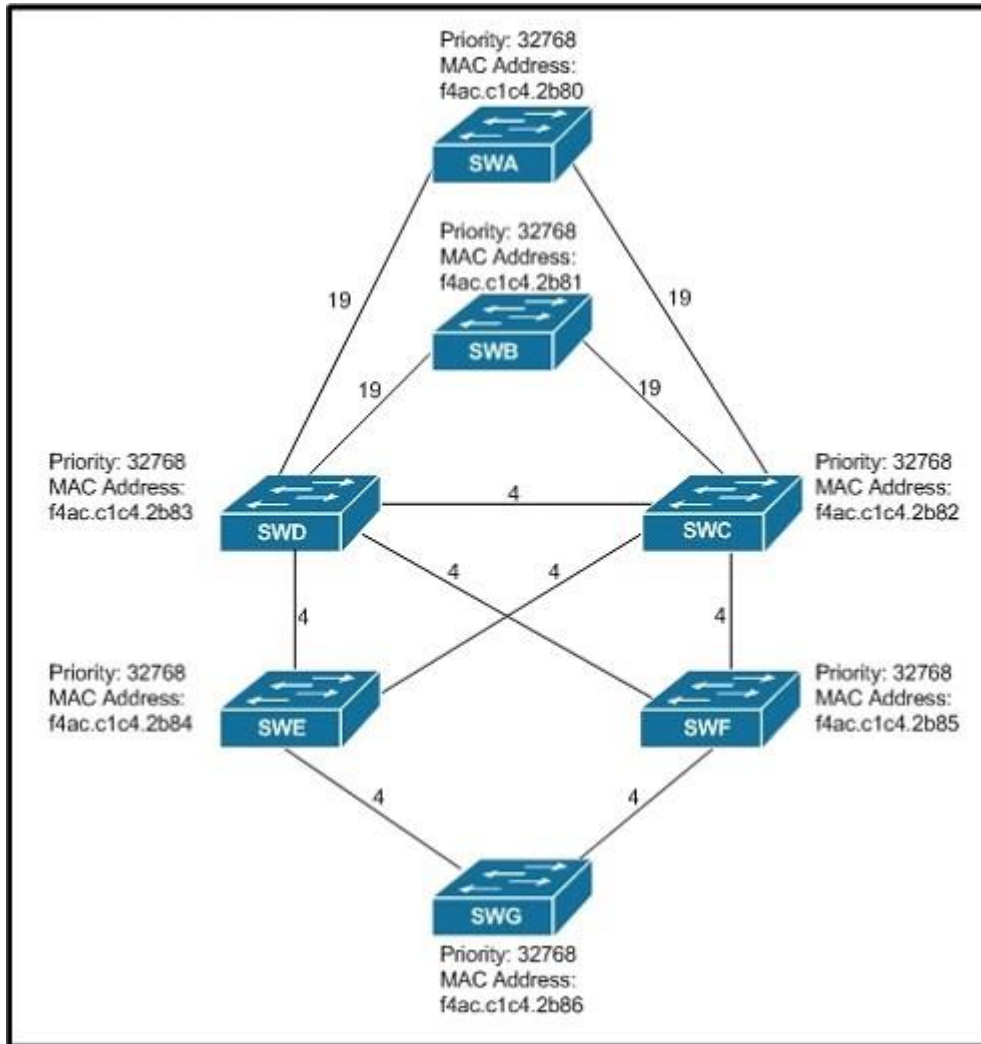


- B. 0100.0CCC.CCCC
- C. 0100.0CCC.CCCD
- D. 0180.C200.0000

**Answer: D**

**QUESTION 398**

Refer to the exhibit. All switches have default bridge priorities, and originate BPDUs with MAC addresses as indicated. The numbers shown are STP link metrics.



After STP converges, you discover that traffic from switch SWG toward switch SWD takes a less optimal path. What can you do to optimize the STP tree in this switched network?

- A. Change the priority of switch SWA to a lower value than the default value.
- B. Change the priority of switch SWB to a higher value than the default value.
- C. Change the priority of switch SWG to a higher value than the default value.
- D. Change the priority of switch SWD to a lower value than the default value.

**Answer: D**

**QUESTION 399**

Which three statements are true about VSS? (Choose three.)

- A. VSS separates the control planes of the active and the standby chassis.
- B. Configuration changes can be made on both active and standby chassis.
- C. When the VSS active chassis recovers after a failure, it initiates a switchover and takes on the active role again.
- D. VSS unifies the control planes of the active and the standby chassis.
- E. HSRP configuration is not required to run VSS.
- F. The VSS standby chassis monitors the VSS active chassis using the VSL.

**Answer: DEF**

**QUESTION 400**

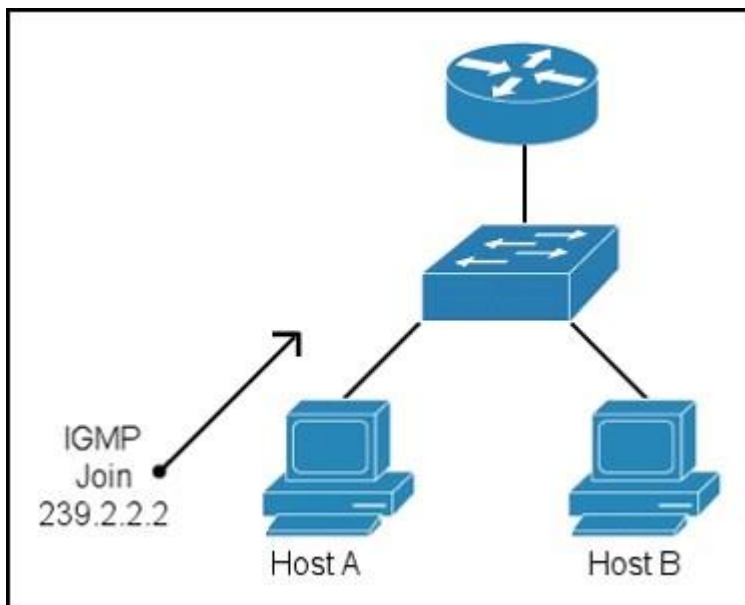
Which flag in a configuration BPDU instructs all switches to shorten their bridge table aging process from the default 300 seconds to the current forward delay value?

- A. topology change bit
- B. topology change acknowledgment bit
- C. priority bit
- D. max-age bit

**Answer: A**

**QUESTION 401**

Refer to the exhibit. Which technology can be used on the switch to enable host A to receive multicast packets for 239.2.2.2 but prevent host B from receiving them?



- A. IGMP filtering
- B. MLD snooping
- C. IGMP snooping
- D. MLD filtering

**Answer:** C

**QUESTION 402**

Which option describes the purpose of the PPP endpoint discriminator?

- A. It identifies the maximum payload packet.
- B. It notifies the peer that it prefers 12-bit sequence numbers.
- C. It identifies the system attached to the link.
- D. It determines whether a loopback is on the link.

**Answer:** C

**QUESTION 403**

Which three statements about SPAN traffic monitoring are true? (Choose three.)

- A. Traffic from a non-source VLAN is discarded when it arrives on a source VLAN.
- B. Multiple sessions can send traffic to an individual destination port.
- C. It supports up to 32 SPAN ports per switch.
- D. The destination port acts as a normal switchport.
- E. It supports up to 64 SPAN ports per switch.
- F. Only one session can send traffic to an individual destination port.

**Answer:** AEF

**QUESTION 404**

Which option describes how a VTPv3 device responds when it detects a VTPv2 device on a trunk port?

- A. It sends VTPv3 packets only.
- B. It sends VTPv2 packets only.
- C. It sends VTPv3 and VTPv2 packets.
- D. It sends a special packet that contains VTPv3 and VTPv2 packet information.

**Answer:** C

**QUESTION 405**

Which three statements about bridge assurance are true? (Choose three.)

- A. Bridge assurance must be enabled on both ends of a link.
- B. Bridge assurance can be enabled on one end of a link or on both ends.
- C. Bridge assurance is enabled on STP point-to-point links only.
- D. Bridge assurance is enabled on STP multipoint links only.
- E. If a bridge assurance port fails to receive a BPDU after a timeout, the port is put into a blocking state.

- F. If a bridge assurance port fails to receive a BPDU after a timeout, the port is put into an error disabled state.

**Answer:** ACE

**QUESTION 406**

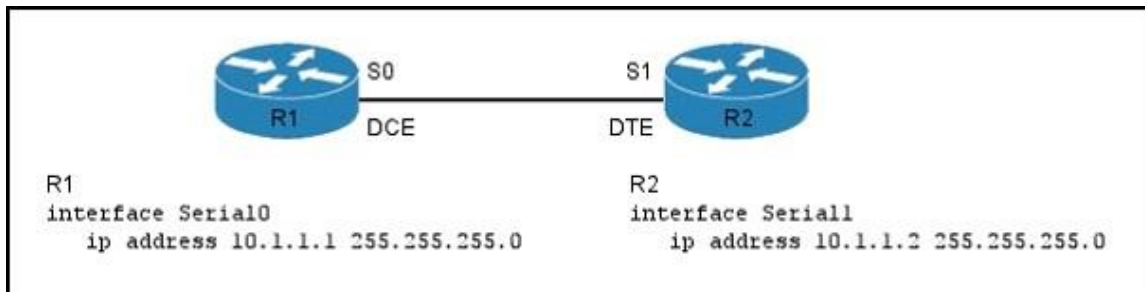
What is the hop limit for an MLD message?

- A. 1
- B. 2
- C. 15
- D. 255

**Answer:** A

**QUESTION 407**

Refer to the exhibit. Which action must you take to enable the WAN link to function properly?



- A. Enter a clock rate on the DCE interface.
- B. Enter a clock rate on the DTE interface.
- C. Enter a compression algorithm on both interfaces.
- D. Configure both interfaces for HDLC encapsulation.

**Answer:** A

**QUESTION 408**

Which two options are the two main phases of PPPoE? (Choose two.)

- A. Active Discovery Phase
- B. IKE Phase
- C. Main Mode Phase
- D. PPP Session Phase
- E. Aggressive Mode Phase
- F. Negotiation Phase

**Answer:** AD

**QUESTION 409**

Which three statements about EVCs are true? (Choose three.)

- A. Spanning Tree must use MST mode on EVC ports.
- B. PAGP is supported on EVC ports.
- C. Spanning Tree must use RSTP mode on EVC ports.
- D. LACP is supported on EVC ports.
- E. Layer 2 multicast framing is supported.
- F. Bridge domain routing is required.

**Answer:** ABD

#### QUESTION 410

Refer to the exhibit. Why is the router out of memory?

```
Router#show version

Router processor (revision 0x00) with 524288K bytes of memory.

Router#show memory statistics
 Head Total(b) Used(b) Free(b) Lowest(b) Largest(b)
Processor 38A6400 405117952 360086164 1031788 37130412 34036896

Router#show process memory
PID TTY Allocated Freed Holding Getbufs Retbufs Process
 0 0 73373216 1706280 69497168 0 0 *Init*
154 0 1103256760 1247933568 311905892 204360 0 BGP Router
327 0 212528944 322521272 44071084 0 0 IP RIB Update

Router#show ip bgp summary
BGP router identifier 1.1.1.1, local AS number 65000
BGP table version is 310248959, main routing table version 310248959
246316 network entries using 29557920 bytes of memory
1586197 path entries using 76137456 bytes of memory
256960/41528 BGP path/bestpath attribute entries using 27751680 bytes of memory
440 BGP rrinfo entries using 10560 bytes of memory
115467 BGP AS-PATH entries using 3047538 bytes of memory
5952 BGP community entries using 479704 bytes of memory
0 BGP route-map cache entries using 0 bytes of memory
230723 BGP filter-list cache entries using 2768676 bytes of memory
BGP using 139753534 total bytes of memory
Dampening enabled. 8 history paths, 0 dampened paths
631350 received paths for inbound soft reconfiguration
BGP activity 9798913/9552597 prefixes, 220384574/218798377 paths, scan interval 60 secs
Neighbor V AS MsgRcvd MsgSent TblVer InQ OutQ Up/Down State/PfxRcd
1.1.1.2 4 65001 39985912 1384531 310248959 0 0 9w1d 277030
1.1.1.3 4 65001 12269759 529250 310248959 0 0 26w0d 276929
1.1.1.4 4 65001 42728751 20209410 310248959 0 0 32w2d 200372
1.1.1.5 4 65001 46624114 20179383 310248959 0 0 1y14w 200372
```

- A. The router is experiencing a BGP memory leak software defect.
- B. The BGP peers have been up for too long.
- C. The amount of BGP update traffic in the network is too high.
- D. The router has insufficient memory due to the size of the BGP database.

**Answer:** D

#### QUESTION 411

Refer to the exhibit. Why is the OSPF state in 2WAY/DROTHER?

```
R1#show ip ospf neighbor
```

| Neighbor ID | Pri | State        | Dead Time | Address     | Interface   |
|-------------|-----|--------------|-----------|-------------|-------------|
| 192.168.2.2 | 0   | 2WAY/DROTHER | 00:00:35  | 10.25.123.2 | Ethernet0/0 |
| 192.168.3.3 | 0   | 2WAY/DROTHER | 00:00:38  | 10.25.123.3 | Ethernet0/0 |

R1#

- A. This is the expected output when the interface Ethernet0/0 of R1 is configured with OSPF Priority 0.
- B. There is a duplicate router ID.
- C. There is an MTU mismatch.
- D. There is an OSPF timer (hello/dead) mismatch.
- E. This is the expected output when R1 is the DR.

**Answer:** A

#### QUESTION 412

In a nonbackbone OSPF area, all traffic that is destined to the Internet is routed by using a default route that is originated by the ABR. Which change in the configuration of the OSPF area type causes traffic from that area that is destined to the Internet to be dropped?

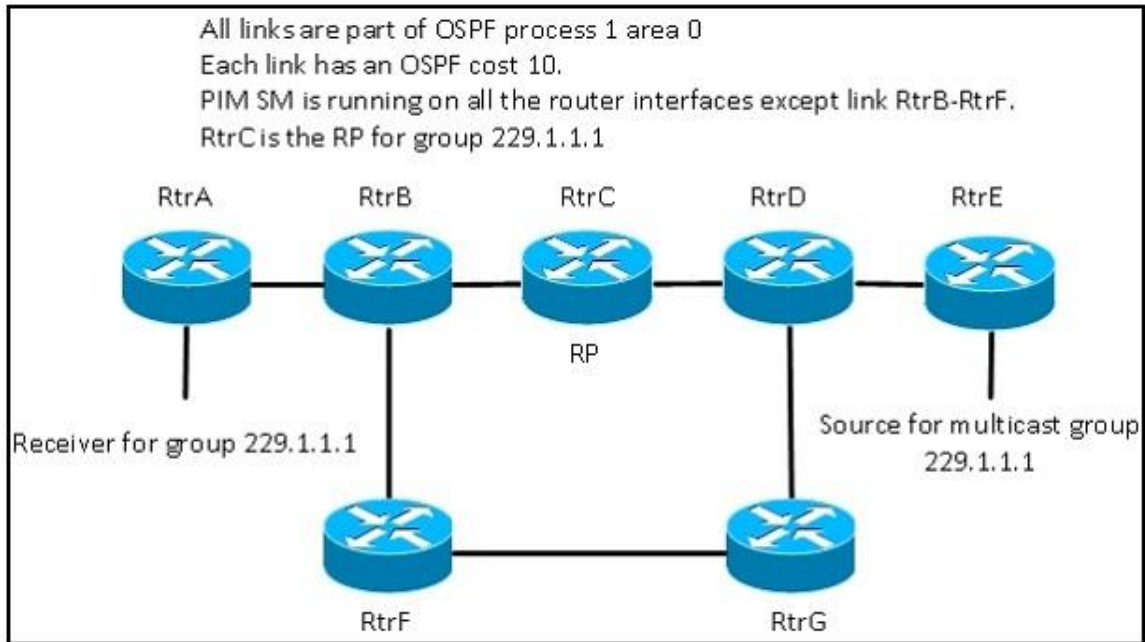
- A. The OSPF area changes from NSSA to totally stubby area.
- B. The OSPF area changes from NSSA to regular area.
- C. The OSPF area changes from stub area to totally stubby area.
- D. The OSPF area changes from stub area to NSSA.

**Answer:** D

#### QUESTION 413

Refer to the exhibit. When the link between RtrB and RtrC goes down, multicast receivers stop receiving traffic from the source for multicast group 229.1.1.1. Which solution will resolve this?





- A. adding a static mroute on RtrB and RtrF
- B. adding a static unicast route on RtrB and RtrF
- C. creating a GRE tunnel between RtrB and RtrD
- D. enabling PIM sparse mode on both ends of the link between RtrB and RtrF

**Answer: D**

#### QUESTION 414

Which measure does ISIS use to avoid sending traffic with a wrong MTU configuration?

- A. ISIS does not protect from MTU mismatch.
- B. MTU value is communicated in ISIS Sequence Number PDUs (SNP), and ISIS adjacency is not established if an MTU mismatch is detected.
- C. ISIS uses path MTU discovery as specified in RFC 1063.
- D. ISIS uses padding of hello packets to full MTU.

**Answer: D**

#### QUESTION 415

Which regular expression will match prefixes from the AS 200 that is directly connected to our AS?

- A. ^\$
- B. ^200)
- C. \_200\$
- D. \_200\_
- E. ^200\_

**Answer: E**

**QUESTION 416**

Refer to the exhibit. Assuming that the peer is configured correctly and the interface is up, how many neighbors will be seen in the EIGRPv6 neighbor table on this IPv6-only router?

```
!
interface Loopback10
 no ip address
 ipv6 address 6010:AB8::/64 eui-64
!
interface Loopback20
 no ip address
 ipv6 address 6020:AB8::/64 eui-64
!
interface Ethernet0/0
 no ip address
 ipv6 enable
 ipv6 eigrp 50
!
ipv6 router eigrp 50
!
```

- A. one neighbor, which will use a local router-id of 6010. AB8. . /64
- B. one neighbor, which will use a local router-id of 6020. AB8. . /64
- C. none, because EIGRPv6 only supports authenticated peers
- D. none, because of the mismatch of timers
- E. none, because there is no EIGRP router ID configured

**Answer: E**

**QUESTION 417**

What does a nonzero forwarding address indicate in a type-5 LSA?

- A. It indicates that this link-state ID is eligible for ECMP.
- B. It indicates that this router should have an OSPF neighbor relationship with the forwarding address before using this link-state ID.
- C. It indicates that the receiving router must check that the next hop is reachable in its routing table before using this link-state ID.
- D. It indicates that traffic can be directly routed to this next hop in shared segment scenarios where the external route source is directly connected.

**Answer: D**

**QUESTION 418**

Which type of EIGRP routes are summarized by the auto-summary command?

- A. internal routes that are learned from a peer that is outside the range of local network statements
- B. external routes that are learned from a peer that is inside the range of local network statements

- C. locally created routes that are outside the range of local network statements
- D. external routes that are learned from a peer that is outside the range of local network statements

**Answer: B**

**QUESTION 419**

Refer to the exhibit. How can the EIGRP hello and hold time for Gig0/0 be changed to 5 and 15?

```
router eigrp foo
!
address-family ipv4 unicast autonomous-system 1
!
af-interface default
hello-interval 10
hold-time 30
exit-af-interface
!
topology base
exit-af-topology
network 10.0.0.0
exit-address-family
```

- A. No action is required, since Gig0/0 is not listed with a nondefault hello and hold time.
- B. Add the commands ip hello-interval eigrp 1 5 and ip hold-time eigrp 1 15 under interface Gig0/0.
- C. Add the commands hello-interval 5 and hold-time 15 under "af-interface Gig0/0" under the address family.
- D. Add the commands default hello-interval and default hold-time under the af-interface Gig0/0 statement under the address family.

**Answer: C**

**QUESTION 420**

What is the range of addresses that is used for IPv4-mapped IPv6 addresses?

- A. 2001. db9. . /32
- B. 2001. db8. . /32
- C. 2002. . /16
- D. . . ffff. /16
- E. . . ffff. 0. 0/96

**Answer: E**

**QUESTION 421**

Which three features require Cisco Express Forwarding? (Choose three.)

- A. NBAR
- B. AutoQoS
- C. fragmentation

- D. MPLS
- E. UplinkFast
- F. BackboneFast

**Answer:** ABD

**QUESTION 422**

Which two options are interface requirements for turbo flooding? (Choose two.)

- A. The interface is Ethernet.
- B. The interface is configured for ARPA encapsulation.
- C. The interface is PPP.
- D. The interface is configured for GRE encapsulation.
- E. The interface is configured for 802.1Q encapsulation.

**Answer:** AB

**QUESTION 423**

Which three options are sub-subfields of the IPv4 Option Type subfield? (Choose three.)

- A. Option Class
- B. GET
- C. Copied
- D. PUSH
- E. Option Number
- F. TTL

**Answer:** ACE

**QUESTION 424**

Which TCP mechanism prevents the sender from sending data too quickly for the receiver to process?

- A. Congestion control
- B. Error detection
- C. Selective acknowledgement
- D. Flow control

**Answer:** D

**QUESTION 425**

Which two packet types does an RTP session consist of? (Choose two.)

- A. TCP
- B. RTCP
- C. RTP
- D. ICMP
- E. BOOTP

F. ARP

**Answer:** BC

**QUESTION 426**

Which option describes the effect of the OSPF default-information originate always command?

- A. It creates a stub area.
- B. It configures the device to advertise a default route regardless of whether it exists in the routing table.
- C. It configures the device to automatically redistribute a default route.
- D. It adds a static default route to the device configuration.

**Answer:** B

**QUESTION 427**

Which technology can create a filter for an embedded packet capture?

- A. Control plane policing
- B. Access lists
- C. NBAR
- D. Traffic shaping

**Answer:** B

**QUESTION 428**

Which two options are reasons to manipulate the delay metric instead of the bandwidth metric for EIGRP routing? (Choose two.)

- A. Because the delay metric provides better handling for bursty traffic
- B. Because manipulating the bandwidth metric can also affect QoS
- C. Because manipulating the bandwidth affects only a particular path
- D. Because changes to the delay metric are propagated to all neighbors on a segment

**Answer:** BD

**QUESTION 429**

Which option describes a limitation of Embedded Packet Capture?

- A. It can capture data only on physical interfaces and subinterfaces.
- B. It can store only packet data.
- C. It can capture multicast packets only on ingress.
- D. It can capture multicast packets only on egress.

**Answer:** C

**QUESTION 430**

Which statement about Cisco Discovery Protocol is true?

- A. The multicast address 0100.0cdd.dddd is used as the destination address for periodic advertisements.
- B. An inactive VLAN that is configured on an access port passes periodic Cisco Discovery Protocol advertisements.
- C. The multicast address 0100.0ccc.ccd is used as the destination address for periodic advertisements.
- D. A VLAN must be active on an access port before periodic Cisco Discovery Protocol advertisements are passed.

**Answer: D**

**QUESTION 431**

Which three TLVs does LLDP use to discover network devices? (Choose three.)

- A. Management address
- B. Port description
- C. Network policy
- D. System name
- E. Location information
- F. Power management

**Answer: ABD**

**QUESTION 432**

Which command enables L2 QoS support in all VLANs (including the native VLAN)?

- A. switchport priority extend cos
- B. mls qos trust dscp
- C. mls qos rewrite ip dscp
- D. switchport trunk native vlan tag

**Answer: D**

**QUESTION 433**

Which three modes are valid for forming an EtherChannel between the ports of two switches? (Choose three.)

- A. Active/active
- B. Active/passive
- C. Passive/passive
- D. Auto/auto
- E. Auto/desirable
- F. Desirable/on

**Answer: ABE**

**QUESTION 434**

In which 802.1D port state are the root bridge, the root port, and the designated port(s) elected?

- A. Listening



- B. learning
- C. forwarding
- D. blocking
- E. disabled

**Answer: A**

**QUESTION 435**

Refer to the exhibit. A Cisco Catalyst 6500 Series Switch experiences high CPU utilization. What can be the cause of this issue, and how can it be prevented?

```
switch#show mls cef exception status
Current IPv4 FIB exception state = TRUE
Current IPv6 FIB exception state = FALSE
Current MPLS FIB exception state = FALSE
```

- A. The hardware routing table is full. Redistribute from BGP into IGP.
- B. The software routing table is full. Redistribute from BGP into IGP.
- C. The hardware routing table is full. Reduce the number of routes in the routing table.
- D. The software routing table is full. Reduce the number of routes in the routing table.

**Answer: C**

**QUESTION 436**

In a network where a Layer 2 switch interconnects several routers, which feature restricts multicast packets for each IP multicast group to only those multicast router ports that have downstream receivers joined to that group?

- A. PIM snooping
- B. IGMP snooping
- C. IGMP filter
- D. IGMP proxy

**Answer: A**

**QUESTION 437**

Which three statements about Cisco HDLC are true? (Choose three.)

- A. HDLC serial encapsulation provides asynchronous framing and error detection.
- B. Serial link keepalives are maintained by SLARP.
- C. HDLC serial encapsulation provides synchronous framing without retransmission.
- D. HDLC frame size can be reduced with MPPC compression.
- E. The interface is brought down after five ignored keepalives.
- F. The interface is brought down after three ignored keepalives.

**Answer: BCF**

**QUESTION 438**

Which two fields reside in the initial CHAP challenge packet? (Choose two.)

- A. the authentication name of the challenger
- B. a random hash value generated by the device
- C. the hashed packet type ID
- D. the packet type ID in clear text

**Answer:** AD

**QUESTION 439**

Which statement about WAN Ethernet Services is true?

- A. Rate-limiting can be configured per EVC.
- B. Point-to-point processing and encapsulation are performed on the customer network.
- C. Ethernet multipoint services function as a multipoint-to-multipoint VLAN-based connection.
- D. UNIs can perform service multiplexing and all-in-one bundling.

**Answer:** A

**QUESTION 440**

What is the maximum number of secondary IP addresses that can be configured on a router interface?

- A. 1
- B. 2
- C. 4
- D. 1024
- E. 65535
- F. no limit to the number of addresses

**Answer:** F

**QUESTION 441**

Which address is a MAC address that is mapped from an IPv6 address (RFC 2464)?

- A. 3333.FF17.FC0F
- B. FFFE.FF17.FC0F
- C. FF34.3333.FF17
- D. FF7E.FF17.FC0F

**Answer:** A

**QUESTION 442**

Which multicast protocol uses source trees and RPF?

- A. DVMRP
- B. PIM sparse mode
- C. CBT

D. mOSPF

**Answer: A**

**QUESTION 443**

What is the function of the command `ip pim autorp listener`?

- A. It allows a border PIM sparse mode router to accept autorp information from another autonomous system.
- B. It allows the mapping agents to accept autorp information from the PIM rendezvous point.
- C. It allows the routers to flood the autorp information in a sparse-mode-only network.
- D. It allows a BSR to accept autorp information and translate it into BSR messages.

**Answer: C**

**QUESTION 444**

Refer to the exhibit. Which statement is true about why the first-hop PIM IPv6 router is stuck in registering?

```
FHR#show ipv6 mroute FF7E::1234
(2001:db8::7, FF7E::1234), 00:02:27/00:01:02, flags: SFT
Incoming interface: Ethernet1/0
RPF nbr: FE80::A8BB:CCFF:FE00:701, Registering
Immediate Outgoing interface list:
Tunnel2, Forward, 00:01:38/never
```

- A. The scope of the IPv6 multicast address is link-local.
- B. The outgoing interface for the IPv6 multicast group should not be a tunnel interface.
- C. The R-bit is set in the IPv6 address, but this is not an embedded RP multicast IPv6 address.
- D. The S flag should not be set on a first-hop PIM router.
- E. A multicast IPv6 address does not start with FF.

**Answer: C**

**QUESTION 445**

Refer to the exhibit. Which option is the result of this configuration?

```
!
ip access-list extended REDIRECT
permit tcp any any eq 25
!
route-map REDIRECT 10
match ip address REDIRECT-SNMP
set interface GigabitEthernet1/0
!
interface loopback0
ip address 172.21.254.254 255.255.252.0
!
ip local policy route-map REDIRECT-SNMP
!
```

- A. All SNMP traffic coming into the router is redirected to interface GigabitEthernet1/0.
- B. All SNMP traffic generated from the router is redirected to interface GigabitEthernet1/0.
- C. All SMTP traffic generated from the router is redirected to interface GigabitEthernet1/0.
- D. All POP3 traffic coming into the router is redirected to interface GigabitEthernet1/0.
- E. All SMTP traffic coming into the router is redirected to interface GigabitEthernet1/0.

**Answer:** C

#### QUESTION 446

Which three statements about EIGRP and BFD are true? (Choose three.)

- A. BFD is independent of the routing protocol, so it can be used as a generic failure detection mechanism for EIGRP.
- B. Some parts of BFD can be distributed to the data plane, so it can be less CPU-intensive than reduced timers, which exist wholly at the control plane.
- C. Reduced EIGRP timers have an absolute minimum detection timer of 1-2 seconds; BFD can provide sub-second failure detection.
- D. BFD is tied to specific routing protocols and can be used for generic fault detection for the OSPF, EIGRP, and BGP routing protocols.
- E. BFD is dependent on the EIGRP routing protocol, so it can be used as a specific failure detection mechanism.
- F. BFD resides on the control plane, so it is less CPU-intensive than if it resided on the data plane.

**Answer:** ABC

#### QUESTION 447

You are implementing new addressing with EIGRP routing and must use secondary addresses, which are missing from the routing table. Which action is the most efficient solution to the problem?

- A. Disable split-horizon on the interfaces with secondary addresses.
- B. Disable split-horizon inside the EIGRP process on the router with the secondary interface addresses.
- C. Add additional router interfaces and move the secondary addresses to the new interfaces.
- D. Use a different routing protocol and redistribute the routes between EIGRP and the new protocol.

**Answer: A**

**QUESTION 448**

Refer to the exhibit. Which two options are possible states for the interface configured with the given OSPFv3 authentication? (Choose two.)

```
RI(config-if)#ipv6 ospf authentication ipsec spi 256 md5 0 o-routes
```

- A. GOING UP
- B. DOWN
- C. UNCONFIGURED
- D. GOING DOWN

**Answer: AB**

**QUESTION 449**

Refer to the exhibit. The device with this configuration is unable to reach network 172.31.31.0/24. The next hop router has been verified to have full connectivity to the network. Which two actions can you take to establish connectivity to the network? (Choose two.)

```
ip route 10.0.0.0 255.255.255.0 192.168.192.9
ip default-network 172.16.199.9
```

- A. Create a static route to 172.16.199.0 using the address of the next hop router.
- B. Create a default route to the link address of the next hop router.
- C. Create a static route to the loopback address of the next hop router.
- D. Create a default route to 172.16.199.9.
- E. Modify the existing static route so that the next hop is 0.0.0.0.
- F. Replace the ip default-network command with the ip default-gateway command.

**Answer: AB**

**QUESTION 450**

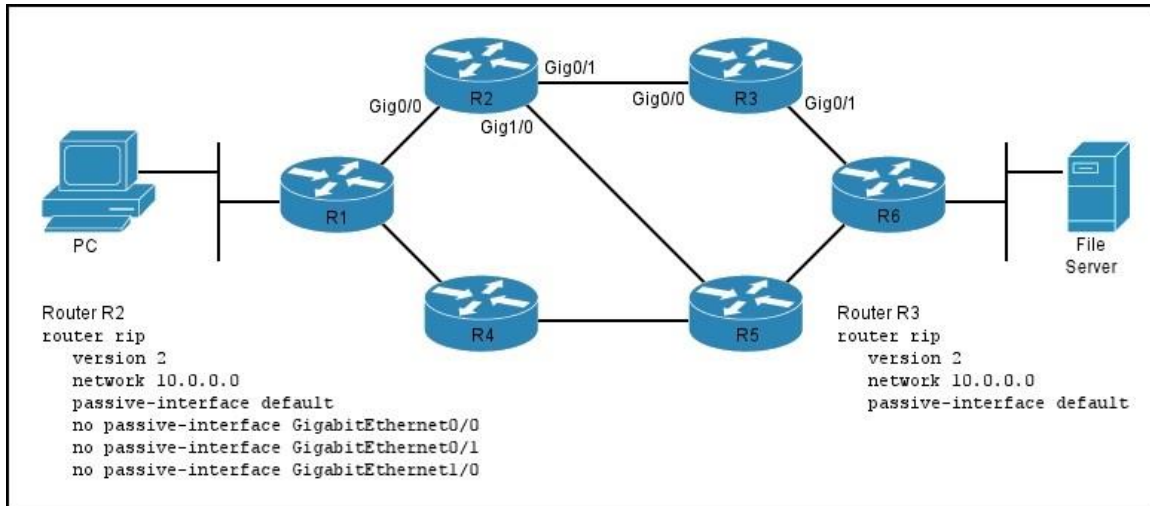
Which algorithm heavily influenced the algorithm used by path-vector protocols?

- A. Bellman-Ford
- B. SPF
- C. DUAL
- D. Spanning-Tree
- E. Adaptive
- F. Deflection

**Answer: A**

**QUESTION 451**

Refer to the exhibit. All of the routers on this network are running RIP. If you edit the R3 RIP process configuration to reduce the number of hops from R3 to R1, which statement about the configuration change is true?



- A. Configuring no passive-interface for GigabitEthernet0/0 in the R3 RIP process reduces the number of hops to R1 by 2.
- B. Configuring no passive-interface for GigabitEthernet0/0 in the R3 RIP process reduces the number of hops to R1 by 1.
- C. Configuring no passive-interface for GigabitEthernet0/1 in the R3 RIP process reduces the number of hops to R1 by 3.
- D. Configuring no passive-interface for GigabitEthernet0/1 in the R3 RIP process reduces the number of hops to R1 by 1.

**Answer: A**

**QUESTION 452**

Where should the passive-interface command be used?

- A. Under the routing process for interfaces that need to be routed, but prevented from peering
- B. under the routing process for interfaces that need to be routed and allowed to peer
- C. under the interface configuration for interfaces that need to be routed, but prevented from peering
- D. under the interface configuration for interfaces that need to be routed and allowed to peer
- E. under the VTY configuration within global configuration mode

**Answer: A**

**QUESTION 453**

Refer to the exhibit. Which statement about the device routing table is true?



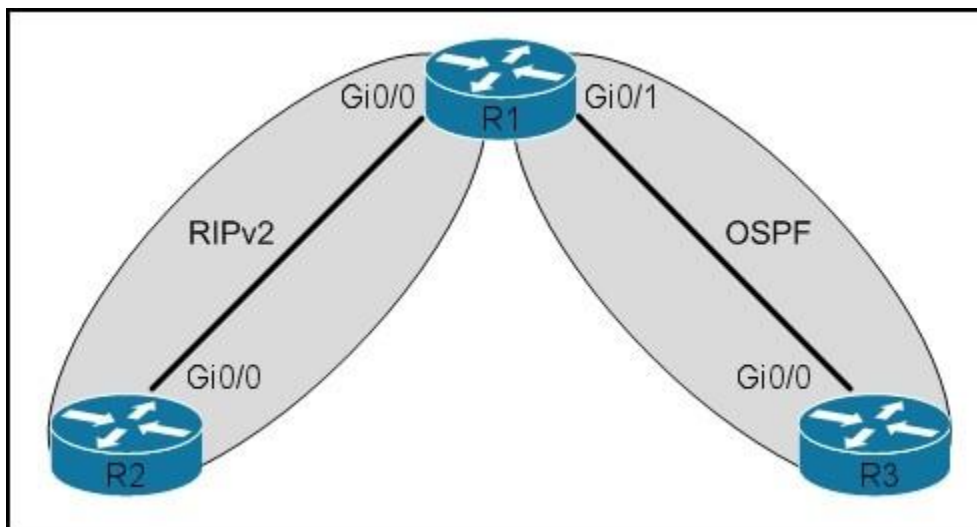
```
ip prefix-list EIGRP-ROUTES seq 5 permit 10.10.10.0/24 le 32
ip prefix-list OUTBOUND seq 5 permit 192.168.168.1/32
router eigrp 65535
network 192.168.168.0 0.0.255.255
network 172.31.10.0 0.0.0.255
distribute-list prefix EIGRP-ROUTES gateway OUTBOUND in
```

- A. Only networks 10.10.10.0/24 and smaller from host 192.168.168.1 are in the routing table.
- B. Only networks 10.10.10.0/24 and larger from host 192.168.168.1 are in the routing table.
- C. Only network 10.10.10.0/24 from host 192.168.168.1 is in the routing table.
- D. Networks 10.10.10.0/24 and smaller from any host are in the routing table.

**Answer: A**

#### QUESTION 454

Refer to the exhibit. R1 is performing mutual redistribution, but OSPF routes from R3 are unable to reach R2. Which three options are possible reasons for this behavior? (Choose three.)



- A. R1 requires a seed metric to redistribute RIP.
- B. The RIP version supports only classful subnet masks.
- C. R1 is filtering OSPF routes when redistributing into RIP.
- D. R3 and R1 have the same router ID.
- E. R1 and R3 have an MTU mismatch.
- F. R2 is configured to offset OSPF routes with a metric of 16.

**Answer: ACF**

#### QUESTION 455

Refer to the exhibit. If the downstream router has a summary route configured, which two actions must you take on the local router to create the summary route that summarizes all routes from the downstream router? (Choose two.)

```

R1#sh ip eigrp 1 topology all
IP-EIGRP Topology Table for AS(1)/ID(10.1.1.2)

Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
 r - reply Status, s - sia Status

P 10.8.1.0/24, 1 successors, FD is 156160, serno 7
 via 10.1.1.1 (156160/128256), FastEthernet1/0
P 10.1.1.0/24, 1 successors, FD is 28160, serno 1
 via Connected, FastEthernet1/0
P 10.6.1.0/24, 1 successors, FD is 156160, serno 8
 via 10.1.1.1 (156160/128256), FastEthernet1/0

```

- A. Configure the summary address on the interface.
- B. Use 10.0.0.0 255.248.0.0 as the summary route.
- C. Configure the summary address in the EIGRP process.
- D. Use 10.0.0.0 255.252.0.0 as the summary route.
- E. Configure a route map to permit the route.
- F. Configure a distribute list in.

**Answer:** AB

#### QUESTION 456

Which three statements about RIP timers are true? (Choose three.)

- A. The default update timer is 30 seconds.
- B. The default invalid timer is 180 seconds.
- C. The default holddown timer is 180 seconds.
- D. The default flush timer is 60 seconds.
- E. The default scan timer is 60 seconds.
- F. The default hello timer is 5 seconds.

**Answer:** ABC

#### QUESTION 457

Which timer expiration can lead to an EIGRP route becoming stuck in active?

- A. hello
- B. active
- C. query
- D. hold

**Answer:** B

#### QUESTION 458

Which three values can be used to tag external EIGRP routes? (Choose three.)

- A. The router ID of the router that redistributed the route

- B. The administrative distance of the external protocol
- C. The protocol ID of the external protocol
- D. The cost to reach the router that redistributed the route
- E. The metric from the external protocol
- F. The router ID of the router from which the external protocol route was learned

**Answer:** ACE

**QUESTION 459**

Which data plane protocol does EIGRP Over the Top use?

- A. MPLS
- B. GRE
- C. LISP
- D. IP-in-IP

**Answer:** C

**QUESTION 460**

Which statement about the feasible distance in EIGRP is true?

- A. It is the maximum metric that should feasibly be considered for installation in the RIB.
- B. It is the minimum metric to reach the destination as stored in the topology table.
- C. It is the metric that is supplied by the best next hop toward the destination.
- D. It is the maximum metric possible based on the maximum hop count that is allowed.

**Answer:** B

**QUESTION 461**

Which statement about the EIGRP RTO is true?

- A. It is six times the SRTT.
- B. It is the time that it normally takes for an update to be received by a peer.
- C. It is the time that it normally takes to receive a reply to a query.
- D. It is the average time that it takes for a reliable packet to be acknowledged.

**Answer:** A

**QUESTION 462**

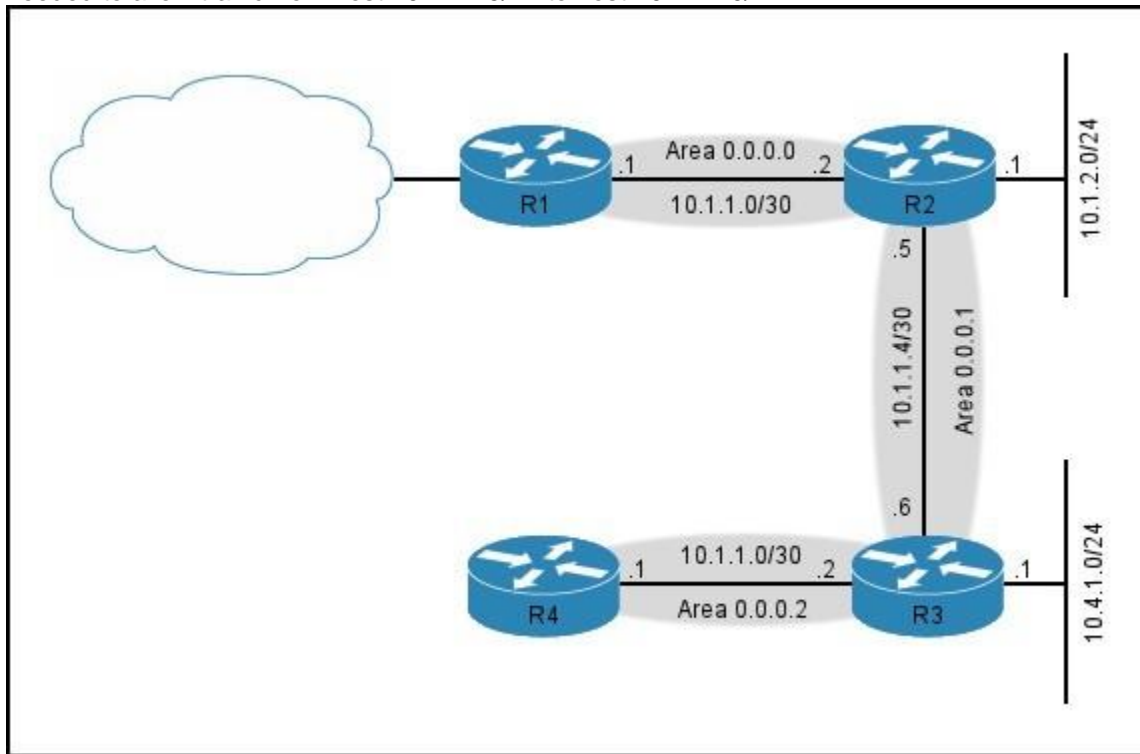
Which option describes the purpose of the leak-map keyword in the command `eigrp stub connected leak-map EigrpLeak`?

- A. It allows the specified static routes to be advertised.
- B. It allows exceptions to the route summarization that is configured.
- C. It allows specified EIGRP-learned routes to be advertised.
- D. It restricts specified connected routes from being advertised.

**Answer:** C

**QUESTION 463**

Refer to the exhibit. If OSPF is implemented on the network, which additional configuration is needed to allow traffic from host 10.4.1.15/24 to host 10.1.2.20/24?

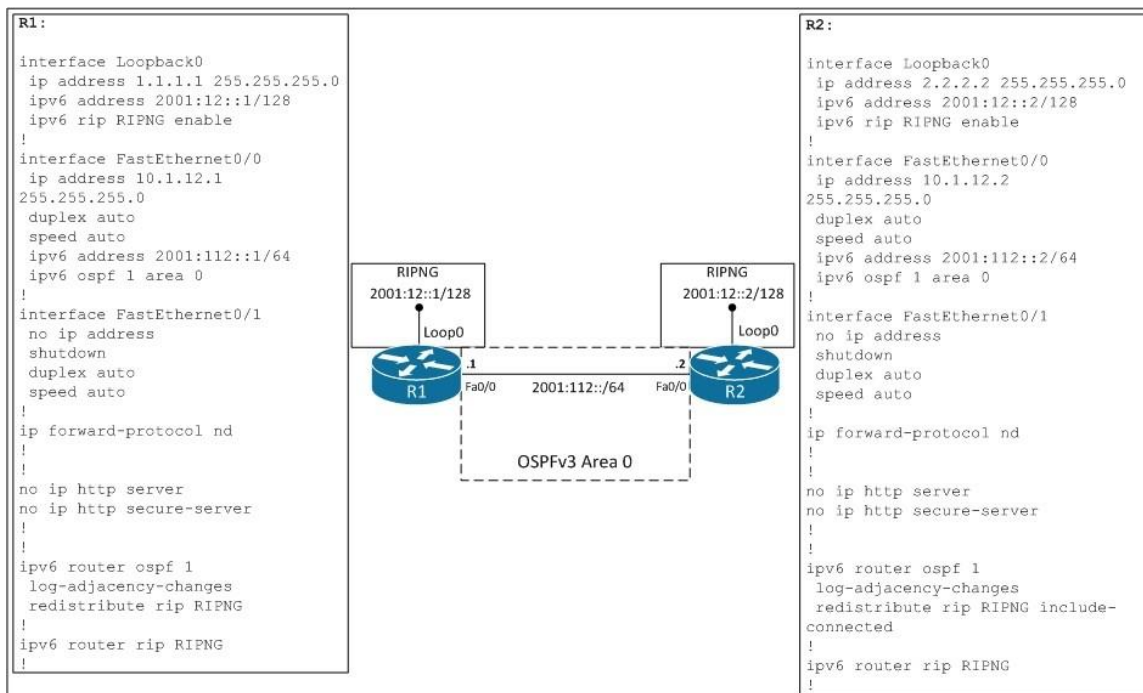


- A. A virtual link between router 2 and router 4
- B. A virtual link between router 3 and router 4
- C. A virtual link between router 2 and router 3
- D. The current design allows traffic between the two hosts.

**Answer:** D

**QUESTION 464**

Refer to the exhibit. Which OSPFv3 routes will be visible in the routing table of R2?



- A. 2001:12::1/128
- B. 2001:12::1/128, 2001:112::1/128
- C. 2001:12::2/128
- D. No OSPFv3 routes will be visible.

**Answer: D**

#### QUESTION 465

Refer to the exhibit. R1 is configured as shown. R1 is able to establish a neighbor adjacency only with R2. Which addition must you make to the R1 configuration to allow it to establish an adjacency with R3?

- A. interface gigabitethernet 0/1  
ip address 10.1.0.1 255.255.255.0  
ip ospf network point-to-point
- B. interface gigabitethernet 0/1  
ip address 10.1.0.1 255.255.255.0  
ip ospf 1 area 0
- C. router ospf 1  
network 10.1.0.0 0.0.0.255 area 1
- D. router ospf 1  
area 0 stub

**Answer: C**

#### QUESTION 466

Which option describes how a router responds if LSA throttling is configured and it receives the identical LSA before the interval is set?

- A. The LSA is added to the OSPF database and a notification is sent to the sending router to slow down its LSA packet updates.
- B. The LSA is added to the OSPF database.
- C. The LSA is ignored.
- D. The LSA is ignored and a notification is sent to the sending router to slow down its LSA packet updates.

**Answer: C**

#### QUESTION 467

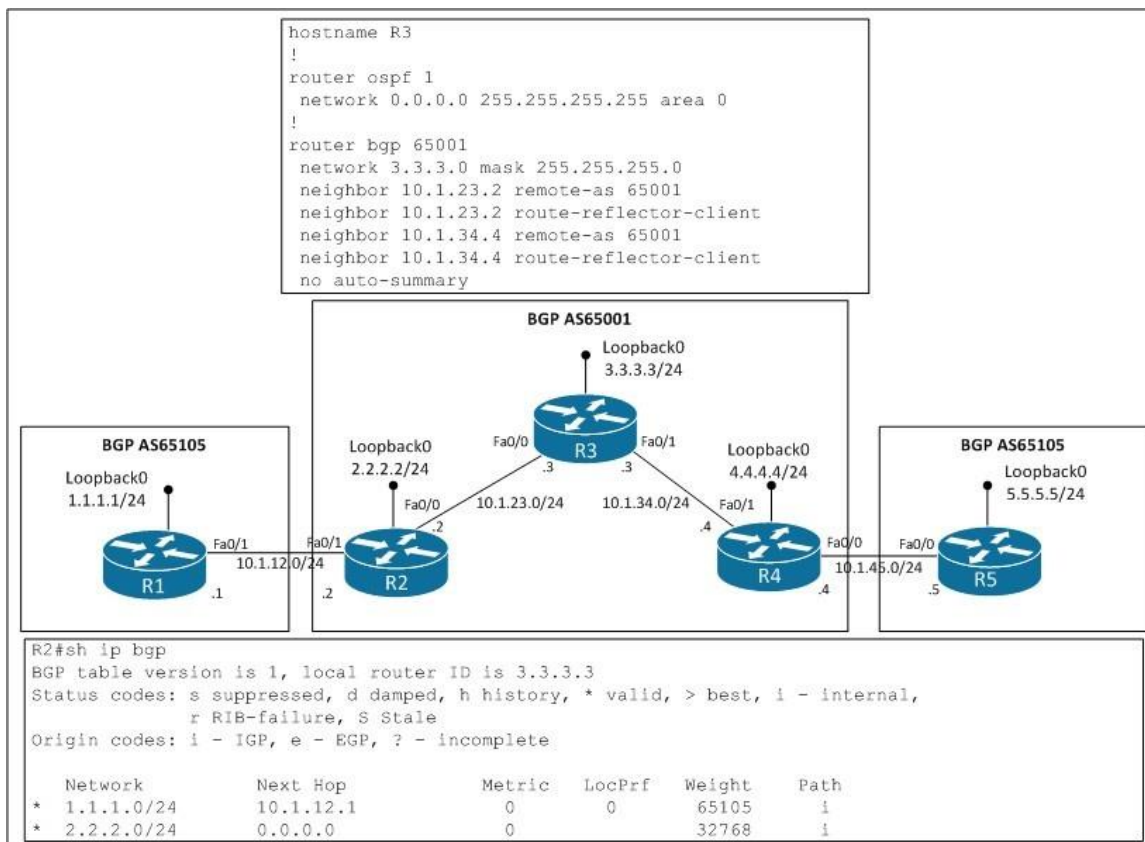
Which two options are valid for the number of bytes in a BGP AS number? (Choose two.)

- A. 2 bytes
- B. 4 bytes
- C. 6 bytes
- D. 8 bytes
- E. 16 bytes

**Answer: AB**

#### QUESTION 468

Refer to the exhibit. Why is the loopback 0 interface of R4 missing in the routing table of R2?





- A. R2 is configured as a route reflector client.
- B. There is no peering between R2 and R3.
- C. The next hop is not reachable from R2.
- D. The route originated within the same AS.

**Answer: B**

**QUESTION 469**

Which statement about the BGP scope of the cost community is true?

- A. It is shared with IBGP neighbors only.
- B. It is shared with IBGP neighbors and route reflectors.
- C. It is shared with EBGP neighbors only.
- D. It is shared with IBGP and EBGP neighbors.
- E. It is shared with IBGP and confederation peers.

**Answer: E**

**QUESTION 470**

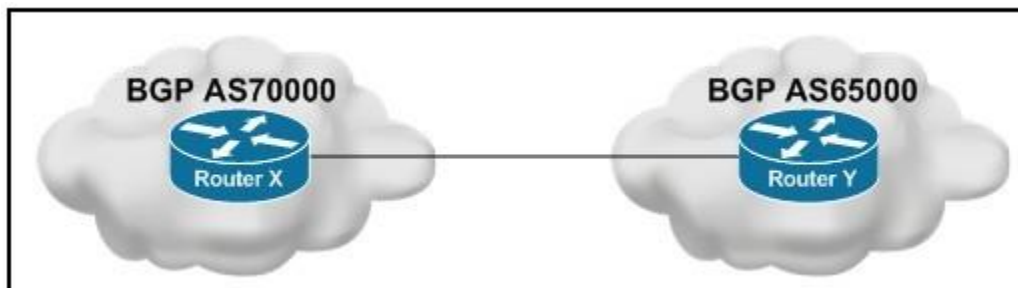
Which statement is true about conditional advertisements?

- A. Conditional advertisements create routes when a predefined condition is met.
- B. Conditional advertisements create routes when a predefined condition is not met.
- C. Conditional advertisements delete routes when a predefined condition is met.
- D. Conditional advertisements create routes and withhold them until a predefined condition is met.
- E. Conditional advertisements do not create routes, they only withhold them until a predefined condition is met.

**Answer: E**

**QUESTION 471**

Refer to the exhibit. How can Router X in AS70000 peer with Router Y in AS65000, in case Router Y supports only 2-byte ASNs?



- A. Router X should be configured with a remove-private-as command, because this will establish the peering session with a random private 2-byte ASN.
- B. It is not possible. Router Y must be upgraded to an image that supports 4-byte ASN.
- C. Router Y should be configured with a 4-byte AS using the local-as command.

D. Router X should be configured with a 2-byte AS using the local-as command.

**Answer: D**

**QUESTION 472**

Which statement about BGP and diverse path advertisement is true?

- A. The BGP best-path selection must be disabled.
- B. The BGP best-path selection algorithm has been changed to always ignore the IGP metric.
- C. The BGP best-path selection algorithm has been changed so that two BGP paths can be flagged as best in the BGP table.
- D. The BGP best-path selection algorithm has not been changed.
- E. The BGP best-path selection is disabled for BGP routes for which the feature is enabled.

**Answer: D**

**QUESTION 473**

For which two conditions is Cisco Express Forwarding recursion disabled by default when the BGP Prefix Independent Convergence functionality is enabled? (Choose two.)

- A. next hops learned with a /24 mask
- B. next hops learned with any mask shorter than /32
- C. next hops learned with a /32 mask
- D. next hops that are directly connected

**Answer: CD**

**QUESTION 474**

How many bytes comprise the system ID within an IS-IS NET?

- A. 4 bytes
- B. 6 bytes
- C. 8 bytes
- D. 16 bytes
- E. 20 bytes

**Answer: B**

**QUESTION 475**

Which two statements about IS-IS are true? (Choose two.)

- A. The default hello interval is 10 seconds and the default hold timer is 30 seconds.
- B. The hello interval can be changed on a per-interface basis with the command isis hello- multiplier.
- C. Both routers need to have the same hello intervals and hold timers in order to form IS-IS neighbors.
- D. Both IS-IS routers need to have the same capabilities in the hello packet in order to form neighbors.

**Answer: AB**

**QUESTION 476**

Which bit should be set in the link-state PDU of an IS-IS L1/L2 router to indicate that it is a potential exit point of the area?

- A. the ABR bit
- B. the ATT bit
- C. the down bit
- D. the P bit

**Answer: B**

**QUESTION 477**

MPLS LDP IGP synchronization is configured on a link. The OSPF adjacency on that link is UP but MPLS LDP synchronization is not achieved. Which statement about this scenario is true?

- A. The router excludes the link from its OSPF LSA type 1.
- B. The router flushes its own router LSA.
- C. The router advertises the link in its router LSA with max-metric.
- D. The router advertises an LSA type 2 for this link, with the metric set to max-metric.
- E. The router advertises the link and OSPF adjacency as it would when the synchronization is achieved.

**Answer: C**

**QUESTION 478**

What is the new designation for the MPLS EXP (experimental) bits?

- A. QoS bits
- B. traffic class bits
- C. flow bits
- D. precedence bits

**Answer: B**

**QUESTION 479**

Which two options are signaling protocols that are used in MPLS? (Choose two.)

- A. LDP
- B. RSVP
- C. BFD
- D. LISP
- E. CLNS
- F. CDP

**Answer: AB**

**QUESTION 480**

Which option is an incorrect design consideration when deploying OSPF areas?

- A. area 1 - area 0 - MPLS VPN backbone - area 0 - area 2
- B. area 1 - MPLS VPN backbone - area 2
- C. area 1 - MPLS VPN backbone - area 1
- D. area 2 - area 0 - MPLS VPN backbone - area 1
- E. area 0 - area 2 - MPLS VPN superbackbone - area 1

**Answer: E**

#### QUESTION 481

Refer to the exhibit. Which statement about the route target for 192.168.1.0/24 is true?

```
ip vrf 10051
 rd 10.1.1.1:10051
 route-target export 64512:100010051
 route-target import 64512:100010051

ip access-list standard mgmt1-10051
 permit 192.168.1.0 0.0.0.255

route-map 10051-export permit 10
 match ip address mgmt1-10051
 set extcommunity rt 64512:3002300

route-map 10051-export permit 20
 match ip address mgmt1-10051
 set extcommunity rt 64512:2002250 64512:3002300 additive
```

- A. Its route target is 64512:100010051.
- B. Its route targets are 64512:100010051, 64512:2002250, and 64512:3002300.
- C. Its route target is 64512:3002300.
- D. Its route targets are 64512:100010051 and 64512:3002300.
- E. Its route targets are 64512:2002250 and 64512:3002300.

**Answer: C**

#### QUESTION 482

Which two options are benefits of EIGRP OTP? (Choose two.)

- A. It allows EIGRP routers to peer across a service provider without the service provider involvement.
- B. It allows the customer EIGRP domain to remain contiguous.
- C. It requires only minimal support from the service provider.
- D. It allows EIGRP neighbors to be discovered dynamically.
- E. It fully supports multicast traffic.
- F. It allows the administrator to use different autonomous system numbers per EIGRP domain.

**Answer: AB**

**QUESTION 483**

Which three options are best practices for implementing a DMVPN? (Choose three.)

- A. Use IPsec in tunnel mode.
- B. Implement Dead Peer Detection to detect communication loss.
- C. Configure AES for encryption of transported data.
- D. Configure SHA-1 for encryption of transported data.
- E. Deploy IPsec hardware acceleration to minimize router memory overhead.
- F. Configure QoS services only on the head-end router.

**Answer:** ABC

**QUESTION 484**

Which IPv6 tunneling type establishes a permanent link between IPv6 domains over IPv4?

- A. IPv4-compatible tunneling
- B. ISATAP tunneling
- C. 6to4 tunneling
- D. manual tunneling

**Answer:** D

**QUESTION 485**

Which three components comprise the structure of a pseudowire FEC element? (Choose three.)

- A. pseudowire ID
- B. pseudowire type
- C. control word
- D. Layer 3 PDU
- E. header checksum
- F. type of service

**Answer:** ABC

**QUESTION 486**

In which two modes do IPv6-in-IPv4 tunnels operate? (Choose two.)

- A. tunnel mode
- B. transport mode
- C. 6to4 mode
- D. 4to6 mode
- E. ISATAP mode

**Answer:** AB

**QUESTION 487**

Which VPN technology requires the use of an external key server?

- A. GETVPN
- B. GDOI
- C. SSL
- D. DMVPN
- E. IPsec
- F. L2TPv3

**Answer:** A

**QUESTION 488**

Which three roles does a key server perform when used with GETVPN? (Choose three.)

- A. It authenticates group members.
- B. It manages security policies.
- C. It creates group keys.
- D. It distributes multicast replication policies.
- E. It distributes multicast replication keys.
- F. It configures and routes the GDOI protocol.

**Answer:** ABC

**QUESTION 489**

Which two Cisco IOS AAA features are available with the local database? (Choose two.)

- A. command authorization
- B. network access authorization
- C. network accounting
- D. network access authentication

**Answer:** AD

**QUESTION 490**

What is the most secure way to store ISAKMP/IPSec preshared keys in Cisco IOS?

- A. Use the service password-encryption command.
- B. Encrypt the ISAKMP preshared key in secure type 5 format.
- C. Encrypt the ISAKMP preshared key in secure type 7 format.
- D. Encrypt the ISAKMP preshared key in secure type 6 format.

**Answer:** D

**QUESTION 491**

Which two statements about the protected ports feature and the private VLAN feature are true? (Choose two.)

- A. The protected ports feature is limited to the local switch.
- B. The protected ports feature can isolate traffic between two "protected" ports on different switches.
- C. The private VLAN feature is limited to the local switch.



- D. The private VLAN feature prevents interhost communication within a VLAN across one or more switches.

**Answer:** AD

**QUESTION 492**

Which two features are used for inspection when IPv6 address glean is enabled? (Choose two.)

- A. DHCP messages
- B. ND messages
- C. ICMPv6 messages
- D. UDP messages
- E. TCP messages

**Answer:** AB

**QUESTION 493**

Refer to the exhibit. Which statement about the R1 configuration is true?

```
R1#show run

ip ssh time-out 30
ip ssh authentication-retries 2

access-list 10 permit 10.1.1.2
no cdp log mismatch duplex

control-plane

line con 0
 exec-timeout 5 30
 logging synchronous
line aux 0
line vty 0 4
 access-class 10 in
 login
 transport input ssh
```

- A. It permits host 10.1.1.2 to establish a Telnet connection to R1.
- B. It limits remote hosts to two SSH connection attempts.
- C. SSH connections to R1 will log out after a 5-minute idle interval.
- D. Hosts that reside on network 10.0.0.0/8 can SSH to R1.
- E. The R1 timeout for outgoing SSH connection attempts is 30 seconds.

**Answer:** E

**QUESTION 494**

Which two statements about the default SNMP configuration are true? (Choose two.)

- A. The SNMP agent is enabled.
- B. The SNMP trap receiver is configured.
- C. All SNMP notification types are sent.
- D. SNMPv1 is the default version.
- E. SNMPv3 is the default version.

**Answer:** CD

**QUESTION 495**

Which two statements about logging are true? (Choose two.)

- A. Log messages are sent to the console port by default.
- B. Log messages are displayed in a Telnet session by default.
- C. Interface status changes are logged at the Notification level.
- D. Interface status changes are logged at the Informational level.
- E. System restart messages are logged at the Critical level.
- F. Reload requests are logged at the Notification level.

**Answer:** AC

**QUESTION 496**

Refer to the exhibit. Your network is suffering excessive output drops. Which two actions can you take to resolve the problem? (Choose two.)

```
access-switch-1#show interface fastethernet0/9
FastEthernet0/9 is up, line protocol is up (connected)
 Hardware is Fast Ethernet, address is 04da.d237.9f09 (bia 04da.d237.9f09)
 Auto-duplex, Auto-speed, media type is 10/100BaseTX
 Last clearing of "show interface" counters never
 Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 59137853

access-switch-1#show mls qos interface fastethernet0/9 statistics
Queueset: 1
output queues dropped:
 queue: threshold1 threshold2 threshold3

 queue 0: 0 0 48252
 queue 1: 23164955 35924645 1
 queue 2: 0 0 0
 queue 3: 0 0 0
```

- A. Install a switch with larger buffers.
- B. Configure a different queue set.
- C. Reconfigure the switch buffers.
- D. Configure the server application to use TCP.
- E. Update the server operating system.

**Answer:** AB

**QUESTION 497**

Refer to the exhibit. If the remaining configuration uses default values, what is the expected output of the show mls qos queue- set command?

```
mls qos queue-set output 1 threshold 2 80 90 100 100
mls qos queue-set output 1 threshold 3 400 400 100 800
mls qos queue-set output 1 threshold 4 60 100 100 100
```

A.

```
Queueset: 1
Queue : 1 2 3 4

buffers : 25 25 25 25
threshold1: 100 80 400 60
threshold2: 100 90 400 100
reserved : 50 100 100 100
maximum : 400 100 800 100
```

B.

```
Queueset: 1
Queue : 1 2 3 4

buffers : 25 25 25 25
threshold1: 100 80 400 60
threshold2: 100 90 400 100
reserved : 50 100 100 100
maximum : 100 100 800 100
```

C.

```
Queueset: 1
Queue : 1 2 3 4

buffers : 25 25 25 25
threshold1: 50 80 400 60
threshold2: 50 90 400 100
reserved : 50 100 100 100
maximum : 400 100 800 100
```

D.

|             |   |     |     |     |     |
|-------------|---|-----|-----|-----|-----|
| Queueset: 1 |   |     |     |     |     |
| Queue       | : | 1   | 2   | 3   | 4   |
| -----       |   |     |     |     |     |
| buffers     | : | 25  | 25  | 25  | 25  |
| threshold1: |   | 100 | 80  | 400 | 60  |
| threshold2: |   | 100 | 90  | 400 | 100 |
| reserved    | : | 100 | 100 | 100 | 100 |
| maximum     | : | 400 | 100 | 800 | 100 |

**Answer:** A

#### QUESTION 498

Which two statements about HSRP are true? (Choose two.)

- A. Its virtual MAC is 0000.0C07.Acxx.
- B. Its multicast virtual MAC is 0000.5E00.01xx.
- C. Its default configuration allows for pre-emption.
- D. It supports tracking.
- E. It supports unique virtual MAC addresses.

**Answer:** AD

#### QUESTION 499

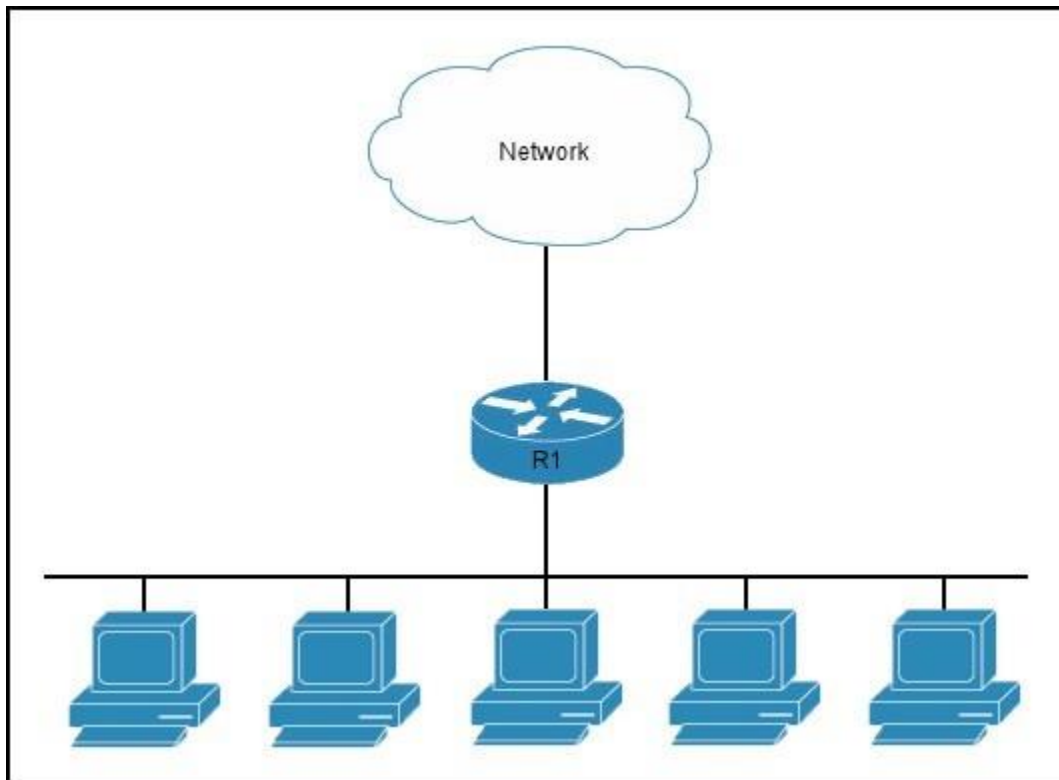
Which two statements about the client-identifier in a DHCP pool are true? (Choose two.)

- A. It specifies a unique identifier that is used only for DHCP requests.
- B. It is specified by appending 01 to the MAC address of a DHCP client.
- C. It specifies a hardware address for the client.
- D. It specifies a unique identifier that is used only for BOOTP requests.
- E. It requires that you specify the hardware protocol.

**Answer:** AB

#### QUESTION 500

Refer to the exhibit. If router R1 is functioning as a DHCPv6 server and you enter the command show ipv6 dhcp binding, which two options are pieces of information in the output? (Choose two.)



- A. The IA PD
- B. The DUID
- C. The prefix pool
- D. The DNS server
- E. The Rapid-Commit setting

**Answer:** AB

**QUESTION 501**

Which two statements about NPTv6 are true? (Choose two.)

- A. The translation is invisible to applications that hard code IP information within the application logic.
- B. It is a one-way stateful translation for the IPv6 address.
- C. Translation is 1:1 at the network layer.
- D. It is a two-way stateless translation for the network prefix.

**Answer:** CD

**QUESTION 502**

Which three protocols can use enhanced object tracking? (Choose three.)

- A. HSRP
- B. Proxy-ARP
- C. VRRP

- D. GLBP
- E. NTP
- F. DHCP

**Answer:** ACD

**QUESTION 503**

What are the three primary components of NetFlow? (Choose three.)

- A. Flow caching
- B. A flow collector
- C. The data analyzer
- D. Flow sequence numbers
- E. Cisco Express Forwarding
- F. Multicast

**Answer:** ABC

**QUESTION 504**

Which two options are actions that EEM can perform after detecting an event? (Choose two.)

- A. Place a port in err-disabled.
- B. Generate an SNMP trap.
- C. Reload the Cisco IOS Software.
- D. Send an SMS.

**Answer:** BC

**QUESTION 505**

On which three options can Cisco PfR base its traffic routing? (Choose three.)

- A. Time of day
- B. An access list with permit or deny statements
- C. Load-balancing requirements
- D. Network performance
- E. User-defined link capacity thresholds
- F. Router IOS version

**Answer:** CDE

**QUESTION 506**

Which two routing protocols are not directly supported by Cisco PfR route control, and rely on the Cisco PfR subfeature PIRO? (Choose two.)

- A. BGP
- B. EIGRP
- C. Static routing
- D. OSPF



E. IS-IS

**Answer:** DE

**QUESTION 507**

Which two options does Cisco PfR use to control the entrance link selection with inbound optimization? (Choose two.)

- A. Prepend extra AS hops to the BGP prefix.
- B. Advertise more specific BGP prefixes (longer mask).
- C. Add (prepend) one or more communities to the prefix that is advertised by BGP.
- D. Have BGP dampen the prefix.

**Answer:** AC

**QUESTION 508**

While you are troubleshooting network performance issues, you notice that a switch is periodically flooding all unicast traffic. Further investigation reveals that periodically the switch is also having spikes in CPU utilization, causing the MAC address table to be flushed and relearned. What is the most likely cause of this issue?

- A. a routing protocol that is flooding updates
- B. a flapping port that is generating BPDUs with the TCN bit set
- C. STP is not running on the switch
- D. a user that is downloading the output of the show-tech command
- E. a corrupted switch CAM table

**Answer:** B

**QUESTION 509**

Your network is suffering from regular outages. After troubleshooting, you learn that the transmit lead of a fiber uplink was damaged. Which two features can prevent the same issues in the future? (Choose two.)

- A. root guard
- B. loop guard
- C. BPDU guard
- D. UDLD
- E. BPDU skew detection

**Answer:** BD

**QUESTION 510**

Which feature would prevent guest users from gaining network access by unplugging an IP phone and connecting a laptop computer?

- A. IPSec VPN
- B. SSL VPN

- C. port security
- D. port security with statically configured MAC addresses
- E. private VLANs

**Answer:** D

**QUESTION 511**

Which two statements are true about the role of split horizon? (Choose two.)

- A. It is a function used by routing protocols to install routes into routing table
- B. It is a function that prevents the advertising of routes over an interface that the router is using to reach a route
- C. Its function is to help avoid routing loops.
- D. It is a redistribution technique used by routing protocols

**Answer:** BC

**QUESTION 512**

Refer to the exhibit. Which result will the EEM applet in the exhibit produce?

```
event manager applet CCIE
event timer cron name CCIE cron-entry */5 * * * *
action 1 cli command "en"
action 2 cli command "show log"
```

- A. The output of show version will be executed every 5 hours.
- B. The output of show log will be executed every 5 hours.
- C. The output of show log will be executed every Friday.
- D. The output of show log will be executed every 5 minutes.

**Answer:** B

**Explanation:**

The cron entry indicates 5 hours. So the output of show log will be executed every 5 hours.

**QUESTION 513**

Which two events occur when a packet is decapsulated in a GRE tunnel? (Choose two.)

- A. The destination IPv4 address in the IPv4 payload is used to forward the packet.
- B. The TTL of the payload packet is decremented.
- C. The source IPv4 address in the IPv4 payload is used to forward the packet.
- D. The TTL of the payload packet is incremented.
- E. The version field in the GRE header is incremented.
- F. The GRE keepalive mechanism is reset.

**Answer:** AB

**QUESTION 514**

**Drag and Drop Question**

Drag and drop each STP port role on the left to the matching statement on the right.

|                 |                                                                        |
|-----------------|------------------------------------------------------------------------|
| alternate port  | the port whose path cost deems it closest to the root bridge           |
| backup port     | the port that sends the best BPDUs on its segment                      |
| designated port | a blocked port that receives more useful BPDUs from a different bridge |
| root port       | a blocked port that receives more useful BPDUs from its own bridge     |

**Answer:**

|  |                 |
|--|-----------------|
|  | root port       |
|  | designated port |
|  | alternate port  |
|  | backup port     |

**QUESTION 515**

**Drag and Drop Question**

Drag and drop the Cisco IOS XE subpackage on the left to the function it performs on the right.

|           |                                                                                         |
|-----------|-----------------------------------------------------------------------------------------|
| RPBase    | administers the shared port adaptor driver and related field-programmable device images |
| RPControl | provisions the software needed to access the router                                     |
| SIPSPA    | manages the Cisco IOS Software and the rest of the platform via the control plane       |
| RPAccess  | provisions the operating system software route processor                                |

**Answer:**

|           |
|-----------|
| SIPSPA    |
| RPAccess  |
| RPControl |
| RPBase    |

**QUESTION 516**

Drag and Drop Question

Drag and drop the VLAN number on the left to the corresponding default VLAN name on the right.

|      |                    |
|------|--------------------|
| 1001 | fddi-default       |
| 1002 | fddinet-default    |
| 1003 | trnet-default      |
| 1004 | ethernet           |
| 1005 | token-ring-default |

**Answer:**

|  |      |
|--|------|
|  | 1002 |
|  | 1004 |
|  | 1005 |
|  | 1001 |
|  | 1003 |

**QUESTION 517**

**Drag and Drop Question**

Drag and drop the StackWise stack master election rule on the left into the correct priority order on the right.

|                                                         |   |
|---------------------------------------------------------|---|
| the switch with the highest software priority           | 1 |
| the switch with the lowest MAC address                  | 2 |
| the current stack master                                | 3 |
| the switch with a defined interface-level configuration | 4 |
| the switch with the highest priority value              | 5 |
| the switch with the longest up time                     | 6 |

**Answer:**

|  |                                                         |
|--|---------------------------------------------------------|
|  | the current stack master                                |
|  | the switch with the highest priority value              |
|  | the switch with a defined interface-level configuration |
|  | the switch with the highest software priority           |
|  | the switch with the longest up time                     |
|  | the switch with the lowest MAC address                  |

**QUESTION 518**

**Drag and Drop Question**

Drag and drop the IGMPv2 timer on the left to its default value on the right.

|                                  |             |
|----------------------------------|-------------|
| Group Membership Interval        | 1 second    |
| Last Member Query Interval       | 10 seconds  |
| Query Interval                   | 60 seconds  |
| Query Response Interval          | 255 seconds |
| Other Querier Present Interval   | 260 seconds |
| Version 1 Router Present Timeout | 400 seconds |

**Answer:**

|  |                                  |
|--|----------------------------------|
|  | Last Member Query Interval       |
|  | Query Response Interval          |
|  | Query Interval                   |
|  | Other Querier Present Interval   |
|  | Group Membership Interval        |
|  | Version 1 Router Present Timeout |

**QUESTION 519**

Drag and Drop Question

Drag and drop the Metro Ethernet circuit on the left to the corresponding Service Type category on the right.



|                               | Port Based |
|-------------------------------|------------|
| Ethernet Virtual Private Line | 1          |
| Ethernet Private Tree         | 2          |
| Ethernet Private LAN          | 3          |

|                              | VLAN Based |
|------------------------------|------------|
| Ethernet Virtual Private LAN | 1          |
| Ethernet Private Line        | 2          |

**Answer:**

|  | Port Based            |
|--|-----------------------|
|  | Ethernet Private Tree |
|  | Ethernet Private LAN  |
|  | Ethernet Private Line |

|  | VLAN Based                    |
|--|-------------------------------|
|  | Ethernet Virtual Private LAN  |
|  | Ethernet Virtual Private Line |

**QUESTION 520**

Drag and Drop Question

Drag and drop the OSPFv3 LSA type on the left to the functionality it provides on the right.

|                                         |                                                                             |
|-----------------------------------------|-----------------------------------------------------------------------------|
| Router LSA (Type 1)                     | advertises an internal network or set of networks to routers in other areas |
| Network LSA (Type 2)                    | associates a group of prefixes for transit networks or stub networks        |
| Interarea-prefix LSA for ABRs (Type 3)  | indicates whether the router is part of a virtual link                      |
| Interarea-router LSA for ASBRs (Type 4) | collects link-state information and cost information for the                |
| Autonomous system external LSA (Type 5) | provides the link-local address of a router to other routers on             |
| Link LSA (Type 8)                       | redistributes external routes                                               |
| Intra-Area-Prefix LSAs (Type 9)         | enables routers to determine the best path to an external network           |

**Answer:**

|  |                                         |
|--|-----------------------------------------|
|  | Interarea-prefix LSA for ABRs (Type 3)  |
|  | Intra-Area-Prefix LSAs (Type 9)         |
|  | Router LSA (Type 1)                     |
|  | Network LSA (Type 2)                    |
|  | Link LSA (Type 8)                       |
|  | Autonomous system external LSA (Type 5) |
|  | Interarea-router LSA for ASBRs (Type 4) |

#### QUESTION 521

Drag and Drop Question

Drag and drop the OSPF network type on the left to the correct category of timers on the right.

|                                  |                                                                                  |
|----------------------------------|----------------------------------------------------------------------------------|
| Point-to-Point                   | <div> Hello 10, Dead 40, Wait 40 <div>1</div> <div>2</div> </div>                |
| Loopback                         | <div> None <div>1</div> </div>                                                   |
| Point-to-Multipoint Nonbroadcast |                                                                                  |
| Broadcast                        | <div> Hello 30, Dead 120, Wait 120 <div>1</div> <div>2</div> <div>3</div> </div> |
| Point-to-Multipoint              |                                                                                  |
| Nonbroadcast                     |                                                                                  |

**Answer:**

|  |                                                                                                                                              |
|--|----------------------------------------------------------------------------------------------------------------------------------------------|
|  | <div> Hello 10, Dead 40, Wait 40 <div>Point-to-Point</div> <div>Broadcast</div> </div>                                                       |
|  | <div> None <div>Loopback</div> </div>                                                                                                        |
|  |                                                                                                                                              |
|  | <div> Hello 30, Dead 120, Wait 120 <div>Point-to-Multipoint Nonbroadcast</div> <div>Point-to-Multipoint</div> <div>Nonbroadcast</div> </div> |
|  |                                                                                                                                              |
|  |                                                                                                                                              |

**QUESTION 522**

Drag and Drop Question

Drag and drop the BGP attribute on the left to the correct category on the right.

|                  |                                             |
|------------------|---------------------------------------------|
| Originator ID    | BGP Well-Known Mandatory Attribute<br>1     |
| Community        | 2                                           |
| Local-Preference | BGP Well-Known Discretionary Attribute<br>1 |
| AS_Path          | BGP Optional Transitive Attribute<br>1      |
| Cluster List     |                                             |
| Origin           |                                             |

**Answer:**

|               |                                                            |
|---------------|------------------------------------------------------------|
| Originator ID | BGP Well-Known Mandatory Attribute<br>AS_Path              |
|               | Origin                                                     |
|               | BGP Well-Known Discretionary Attribute<br>Local-Preference |
| Cluster List  | BGP Optional Transitive Attribute<br>Community             |

### QUESTION 523

Drag and Drop Question

Drag and drop the DMVPN command on the left to the corresponding function on the right.

|                       |                                                                   |
|-----------------------|-------------------------------------------------------------------|
| ip nhrp map group     | configures mapping from an ip adress to an NBMA mapping           |
| ip nhrp group         | associates an NHRP group to a QoS policy                          |
| ip nhrp map           | allows broadcast packets to be sent over a tunnel                 |
| ip nhrp map multicast | configured an NHRP group                                          |
| ip nhrp nhs           | designates the IP to use for communication to the next hop server |
| ip nhrp responder     | specifies the next hop server                                     |

**Answer:**

|  |                       |
|--|-----------------------|
|  | ip nhrp map           |
|  | ip nhrp map group     |
|  | ip nhrp map multicast |
|  | ip nhrp group         |
|  | ip nhrp nhs           |
|  | ip nhrp responder     |

**QUESTION 524**

Drag and Drop Question

Drag and drop the OTV component on the left to the function it performs on the right.

|                           |                                                     |
|---------------------------|-----------------------------------------------------|
| edge device               | elected by the OTV to provide loop-free multihoming |
| join interface            | connects VLANs to be extended                       |
| internal interface        | receives local OTV hello messages                   |
| overlay interface         | provides an uplink to the overlay network           |
| site VLAN                 | encapsulates layer 2 frames within an IP header     |
| authoritative edge device | connects a site to an overlay network               |

**Answer:**

|  |                           |
|--|---------------------------|
|  | authoritative edge device |
|  | internal interface        |
|  | site VLAN                 |
|  | join interface            |
|  | overlay interface         |
|  | edge device               |

#### QUESTION 525

Drag and Drop Question

Drag and drop the TACACS+ configuration command on the left to the correct function it performs on the right.



|                                                   |                                                                             |
|---------------------------------------------------|-----------------------------------------------------------------------------|
| tacacs-server host 192.168.1.250                  | globally configures a pre-shared TACACS+ key                                |
| tacacs-server host 10.1.1.93 key CISCO            | configures a device to send only a portion of the username                  |
| tacacs-server key CISCO                           | configures the device to send TACACS+ requests to a                         |
| tacacs-server directed-request                    | maintains a single open connection between the device and                   |
| tacacs-server packet 12000                        | configures the device to securely send TACACS+ requests to a TACACS+ server |
| tacacs-server host 172.16.16.25 single-connection | configured the maximum TACACS+ packet size                                  |

**Answer:**

|  |                                                   |
|--|---------------------------------------------------|
|  | tacacs-server key CISCO                           |
|  | tacacs-server directed-request                    |
|  | tacacs-server host 192.168.1.250                  |
|  | tacacs-server host 172.16.16.25 single-connection |
|  | tacacs-server host 10.1.1.93 key CISCO            |
|  | tacacs-server packet 12000                        |

#### QUESTION 526

Drag and Drop Question

Drag and drop the DSCP PHB on the left to the corresponding binary representation on the right.

|      |          |
|------|----------|
| AF31 | 10111000 |
| AF43 | 01010000 |
| AF22 | 1110000  |
| AF13 | 01101000 |
| EF   | 00111000 |
| CS7  | 10011000 |

**Answer:**

|  |      |
|--|------|
|  | EF   |
|  | AF22 |
|  | CS7  |
|  | AF31 |
|  | AF13 |
|  | AF43 |

**QUESTION 527**

Which two statements about Cisco Express Forwarding are true? (Choose two.)

- A. Cisco Express Forwarding tables contain reachability information and adjacency tables contain forwarding information.
- B. Cisco Express Forwarding tables contain forwarding information and adjacency tables contain reachability information.
- C. Changing MAC header rewrite strings requires cache validation.
- D. Adjacency tables and Cisco Express Forwarding tables can be built separately.
- E. Adjacency tables and Cisco Express Forwarding tables require packet process-switching.

**Answer:** AD

**QUESTION 528**

Which TCP feature allows a client to request a specific packet that was lost?

- A. flow control
- B. sliding window
- C. fast recovery
- D. selective acknowledgment

**Answer:** D

**QUESTION 529**

Which two solutions can reduce UDP latency? (Choose two.)

- A. fast retransmission
- B. fast recovery
- C. fast start
- D. low-latency queuing
- E. IP service level agreements
- F. congestion-avoidance algorithm

**Answer:** DE

**QUESTION 530**

You are configuring Wireshark on a Cisco Catalyst 4500E Switch with a Supervisor 8. Which three actions can you take to prevent the capture from overloading the CPU? (Choose three.)

- A. Attach the specific ports that are part of the data path.
- B. Use an in-line filter.
- C. Use an appropriate ACL.
- D. Add memory to the Supervisor.
- E. Reconfigure the buffers to accommodate the additional traffic.
- F. Configure a policy map, class map, and an access list to express the match conditions.

**Answer:** ABC

**QUESTION 531**

Which three statements about VTP version 3 are true? (Choose three.)

- A. It supports other databases in addition to VLAN.
- B. It supports VLANs up to 4095.
- C. It supports the synchronization of switch configuration templates between switches in the domain.
- D. It supports the transfer of information about private VLAN structures.
- E. It supports the transfer of PVST+ configuration information.
- F. It supports RSTP.

**Answer:** ABD

**QUESTION 532**

In an STP domain, which two statements are true for a nonroot switch, when it receives a configuration BPDU from the root bridge with the TC bit set? (Choose two.)

- A. It sets the MAC table aging time to max\_age + forward\_delay time.
- B. It sets the MAC table aging time to forward\_delay time.
- C. It recalculates the STP topology upon receiving topology change notification from the root switch.
- D. It receives the topology change BPDU on both forwarding and blocking ports.

**Answer:** BD

**QUESTION 533**

Which two statements about RSTP and MSTP BPDUs are true? (Choose two.)

- A. MSTP switches can detect boundary ports when they receive RSTP version 2 BPDUs.
- B. MSTP switches can detect boundary ports when they receive RSTP version 1 BPDUs.
- C. RSTP switches can process MSTP version 3 BPDUs.
- D. When all boundary switches are running RSTP, MST sends only version 0 configuration BPDUs.

**Answer:** AC

**QUESTION 534**

Which three options are sources from which a SPAN session can copy traffic? (Choose three.)

- A. ports
- B. EtherChannels
- C. VLANs
- D. subnets
- E. primary IP addresses
- F. secondary IP addresses

**Answer:** ABC

**QUESTION 535**

Which three capabilities are provided by MLD snooping? (Choose three.)

- A. dynamic port learning
- B. IPv6 multicast router discovery
- C. user-configured ports age out automatically
- D. a 5-minute aging timer
- E. flooding control packets to the egress VLAN
- F. a 60-second aging timer

**Answer:** ABD

**QUESTION 536**

Refer to the exhibit. Which two statements about the implementation are true? (Choose two.)

```
Interface Serial0/1
 ppp multilink
 multilink-group 2
 ppp multilink interleave
 ppp multilink multiclass
```

- A. The PPP multilink protocol header is omitted on delay-sensitive packets.
- B. The maximum number of fragments is 1.
- C. Small real-time packets are multilink-encapsulated.
- D. A transmit queue is provided for smaller packets.

**Answer:** AD

**QUESTION 537**

Which two statements are characteristics of Ethernet private LAN circuits? (Choose two.)

- A. They support communication between two or more customer endpoints.
- B. They utilize more than one bridge domain.
- C. They support point-to-multipoint EVC.
- D. They support multipoint-to-multipoint EVC.

**Answer:** AD

**QUESTION 538**

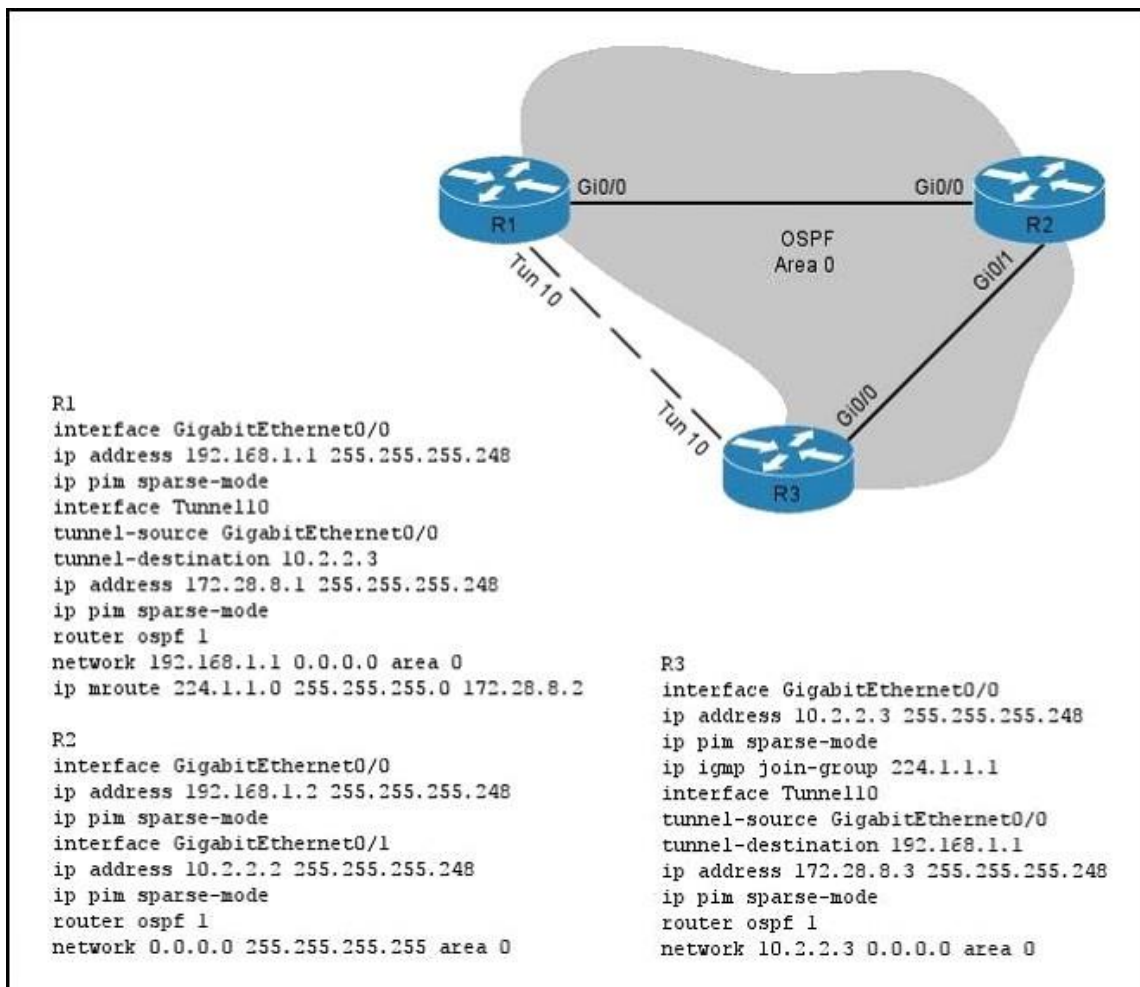
Which two statements about Inverse ARP are true? (Choose two.)

- A. It uses the same operation code as ARP.
- B. It uses the same packet format as ARP.
- C. It uses ARP stuffing.
- D. It supports static mapping.
- E. It translates Layer 2 addresses to Layer 3 addresses.
- F. It translates Layer 3 addresses to Layer 2 addresses.

**Answer:** BE

**QUESTION 539**

Refer to the exhibit. R3 is failing to join the multicast group 224.1.1.1 that is sourcing from R1. Which two actions can you take to allow multicast traffic to flow correctly? (Choose two.)



- A. Remove the static multicast route on R1.
- B. Configure OSPF on R1 and R3 to include the tunnel interfaces.
- C. Add an additional static multicast route on R2 for multicast group 224.1.1.1 toward R3.
- D. Replace the static multicast route on R1 to send traffic toward R2.
- E. Remove the static unicast route on R1.
- F. Add an additional static unicast route on R2 toward the loopback interface of R3.

**Answer:** AB

#### QUESTION 540

Which two modes of operation does BFD support? (Choose two.)

- A. synchronous mode
- B. asynchronous mode
- C. demand mode
- D. echo mode
- E. aggressive mode
- F. passive mode

**Answer:** BC



**QUESTION 541**

Which two loop-prevention mechanisms are implemented in BGP? (Choose two.)

- A. A route with its own AS in the AS\_PATH is dropped automatically if the route reenters its own AS.
- B. A route with its own cluster ID in the CLUSTER\_LIST is dropped automatically when the route reenters its own AS.
- C. The command `bgp allowas-in` enables a route with its own AS\_PATH to be dropped when it reenters its own AS.
- D. The command `bgp bestpath as-path ignore` enables the strict checking of AS\_PATH so that they drop routes with their own AS in the AS\_PATH.
- E. The command `bgp bestpath med missing-as-worst` assigns the smallest possible MED, which directly prevents a loop.

**Answer:** AB

**QUESTION 542**

Refer to the exhibit. RIPv2 authentication is failing on a device with this configuration. Which two actions can you take to enable it? (Choose two.)

```
key chain kcl
 key 1
 key-string ripauth
interface Serial0
 ip address 10.1.1.1 255.255.255.252
 ip rip authentication key-chain kcl
router rip
 version 2
 network 10.0.0.0
```

- A. Set the RIP authentication mode to text.
- B. Set the RIP authentication mode to MD5.
- C. Configure the password encryption for the key.
- D. Set the password encryption to AES.

**Answer:** AB

**QUESTION 543**

Which three routing protocols utilize TLVs? (Choose three.)

- A. BGP
- B. IS-IS
- C. ODR
- D. OSPF
- E. EIGRP
- F. RIP

**Answer:** ABE

**QUESTION 544**

Which two statements about the command distance bgp 90 60 120 are true? (Choose two.)

- A. Implementing the command is a Cisco best practice.
- B. The external distance it sets is preferred over the internal distance.
- C. The internal distance it sets is preferred over the external distance.
- D. The local distance it sets may conflict with the EIGRP administrative distance.
- E. The internal distance it sets may conflict with the EIGRP administrative distance.
- F. The local distance it sets may conflict with the RIP administrative distance.

**Answer:** CF

**QUESTION 545**

Refer to the exhibit. Route exchange is failing on a PE edge device configured with this VRF-Lite. Which action can you take to correct the problem?

```
vrf definition v1
 rd 1:1
 address-family ipv4
 exit-address-family
 address-family ipv6
 exit-address-family

vrf definition v2
 rd 2:2
 address-family ipv6
 exit-address-family

interface FastEthernet0/0
 no ip address
interface FastEthernet0/0.100
 encapsulation dot1Q 100
 vrf forwarding v1
 ip address 192.168.1.1 255.255.255.0
 ipv6 enable
 ospfv3 1 ipv6 area 0
 ospfv3 1 ipv4 area 0
interface FastEthernet0/0.200
 encapsulation dot1Q 200
 vrf forwarding v2
 ipv6 enable
 ospfv3 1 ipv6 area 0
interface FastEthernet0/1
 vrf forwarding v1
 ip address 10.1.1.1 255.255.255.0
 ipv6 enable
 ospfv3 1 ipv6 area 1
 ospfv3 1 ipv4 area 0
 no keepalive
interface FastEthernet0/2
 vrf forwarding v2
 no ip address
 ipv6 address 2001:DB8:1::1
 ipv6 enable
 ospfv3 1 ipv6 area 1

router ospfv3 1
 address-family ipv6 unicast vrf v2
 router-id 192.168.2.1
 exit-address-family

 address-family ipv4 unicast vrf v1
 router-id 192.168.1.4
 exit-address-family

 address-family ipv6 unicast vrf v1
 router-id 192.168.1.1
 exit-address-family
```

- A. Configure the vrf-lite capability under the OSPF address families.

- B. Correct the route descriptors.
- C. Correct the OSPF router-ids.
- D. Configure the control plane with a larger memory allocation to allow the device to appear in the routing table.

**Answer:** A

**QUESTION 546**

Refer to the exhibit. Which option is the result of this configuration?

```
router ospf 1
network 192.168.10.0 0.0.0.255 area 0
network 172.22.19.0 0.0.0.255 area 15
area 15 range 192.168.0.0 255.255.0.0 not-advertise
!
```

- A. Devices in OSPF area 15 can reach the summary route 192.168.0.0/16 and its more specific subnets.
- B. Devices in OSPF area 15 can reach only the more specific routes of 192.168.0.0/16.
- C. Devices in OSPF area 0 can reach the summary route 192.168.0.0/16 and its more specific subnets.
- D. Devices in OSPF area 0 can reach only the summary route of 192.168.0.0/16.

**Answer:** A

**QUESTION 547**

Which two technologies are supported by EIGRP? (Choose two.)

- A. clear-text authentication
- B. MD5 authentication
- C. stub routing
- D. multiple areas

**Answer:** BC

**QUESTION 548**

How does having an EIGRP feasible successor speed up convergence?

- A. EIGRP sends queries only if there is a feasible successor, which decreases the number of routers that are involved in convergence.
- B. EIGRP sends queries only if there is not a feasible successor, which causes less control traffic to compete with data.
- C. EIGRP immediately installs the loop-free alternative path in the RIB.
- D. EIGRP preinstalls the feasible successor in the RIB in all cases, which causes traffic to switch more quickly.

**Answer:** C

**QUESTION 549**

Which two options are ways in which an OSPFv3 router handles hello packets with a clear address-family bit? (Choose two.)

- A. IPv4 unicast packets are discarded.
- B. IPv6 unicast packets are discarded.
- C. IPv4 unicast packets are forwarded.
- D. IPv6 unicast packets are forwarded.

**Answer:** AD

**QUESTION 550**

Which two statements about OSPF route types are true? (Choose two.)

- A. The cost of an external type 2 route is the sum of the external and internal costs.
- B. The cost of an external type 2 route is the same as the external cost.
- C. Intra-area routes originate outside of their area.
- D. Inter-area routes originate inside their area.
- E. The cost of an external type 1 route is the same as the internal cost.
- F. For routes to the same destination, external type 1 routes are preferred over external type 2 routes.

**Answer:** BF

**QUESTION 551**

A company is multihomed to several Internet providers using EBGp. Which two measures guarantee that the network of the company does not become a transit AS for Internet traffic? (Choose two.)

- A. Prepend three times the AS number of the company to the AS path list.
- B. Add the community NO\_EXPORT when sending updates to EBGp neighbors.
- C. Write AS-path access-list which permits one AS long paths only and use it to filter updates sent to EBGp neighbors.
- D. Add the community NO\_EXPORT when receiving updates from EBGp neighbors.

**Answer:** CD

**QUESTION 552**

Which BGP feature allows a router to maintain its current BGP configuration while it advertises a different AS number to new connections?

- A. local-AS
- B. next-hop-self
- C. allow-AS in
- D. soft reset

**Answer:** A

**QUESTION 553**

Which problem can result when private AS numbers are included in advertisements that are sent to the global Internet BGP table?

- A. The prefixes sent with private AS numbers are always discarded on the Internet.
- B. The prefixes sent with private AS numbers are always tagged as invalid on the Internet.
- C. The prefixes sent with private AS numbers lack uniqueness, which can lead to a loss of connectivity.
- D. The prefixes sent with private AS numbers are sometimes tagged as invalid on the Internet.

**Answer: C**

**QUESTION 554**

Which two statements about the BGP community attribute are true? (Choose two.)

- A. Routers send the community attribute to all BGP neighbors automatically.
- B. A router can change a received community attribute before advertising it to peers.
- C. It is a well-known, discretionary BGP attribute.
- D. It is an optional transitive BGP attribute.
- E. A prefix can support only one community attribute.

**Answer: BD**

**QUESTION 555**

Refer to the exhibit. Which AS paths are matched by this access list?

```
ip as-path access-list 1 permit ^64496_[0-9]*$
```

- A. the origin AS 64496 only
- B. the origin AS 64496 and any ASs after AS 64496
- C. the directly attached AS 64496 and any ASs directly attached to AS 64496
- D. the directly attached AS 64496 and any longer AS paths

**Answer: C**

**QUESTION 556**

Which two features improve BGP convergence? (Choose two.)

- A. next-hop address tracking
- B. additional paths
- C. advertise map
- D. communities
- E. soft reconfiguration

**Answer: AB**

**QUESTION 557**

Refer to the exhibit. The spokes of the DMVPN with the given configuration are having QoS issues.

Which two actions can you take to resolve the problem? (Choose two.)

```
crypto isakmp policy 1
 authentication pre-share
crypto isakmp key dmvpn address 0.0.0.0 0.0.0.0
crypto ipsec transform-set vpntrans ah-sha-hmac esp-aes 256 esp-sha-hmac
crypto ipsec profile DMVPN-PROF
 set transform-set vpntrans

policy-map SHAPE
 class class-default
 shape average 200000

interface Loopback0
 ip address 10.1.1.1 255.255.255.0

interface Tunnel0
 ip address 192.168.1.1 255.255.255.0
 no ip next-hop-self eigrp 1
 ip nhrp authentication dmvpn
 ip nhrp map multicast dynamic
 ip nhrp network-id 99
 ip tcp adjust-mss 1360
 no ip split-horizon eigrp 1
 tunnel source Serial1/0
 tunnel mode gre multipoint
 tunnel protection ipsec profile DMVPN-PROF

interface Serial1/0
 ip address 172.16.1.1 255.255.255.248
 encapsulation frame-relay
 frame-relay inverse-arp

router eigrp 1
 network 10.0.0.0
 network 192.168.1.0
```

- A. Configure qos pre-classify on the tunnel interface.
- B. Configure an NHRP group on the tunnel interface and associate it to a QoS policy.
- C. Modify the configuration of the IPsec policy to accept QoS policies.
- D. Manually configure a QoS policy on the serial interface.
- E. Configure the bandwidth statement on the tunnel interface.
- F. Configure the bandwidth statement on the serial interface.

**Answer:** AB

**QUESTION 558**

Which three statements about the route preference of IS-IS are true? (Choose three.)



- A. An L1 path is preferred over an L2 path.
- B. An L2 path is preferred over an L1 path.
- C. Within each level, a path that supports optional metrics is preferred over a path that supports only the default metric.
- D. Within each level of metric support, the path with the lowest metric is preferred.
- E. The Cisco IS-IS implementation usually performs equal cost path load balancing on up to eight paths.
- F. Both L1 and L2 routes will be installed in the routing table at the same time.

**Answer:** ACD

**QUESTION 559**

Refer to the exhibit. Which three statements about the R1 configuration are true? (Choose three.)

```
R1#show mpls l2transport vc 1611 detail

Local interface: Gi4/0/2 up, line protocol up, Eth VLAN 1611 up
 Destination address: 172.16.12.70, VC ID: 1611, VC status: down
 Output interface: none, imposed label stack {}
 Preferred path: not configured
 Default path: no route
 No adjacency
Create time: 4w2d, last status change time: 4w2d
Signaling protocol: LDP, peer 172.16.12.70:0 up
 Targeted Hello: 172.16.192.80(LDP Id) -> 172.16.12.70
 Status TLV support (local/remote) : enabled/unknown (no remote binding)
 Label/status state machine : local ready, LruRnd
 Last local dataplane status rcvd: no fault
 Last local SSS circuit status rcvd: no fault
 Last local SSS circuit status sent: not sent
 Last local LDP TLV status sent: no fault
 Last remote LDP TLV status rcvd: unknown (no remote binding)
MPLS VC labels: local 4006, remote unassigned
Group ID: local 0, remote unknown
MTU: local 1500, remote unknown
Remote interface description:
Sequencing: receive disabled, send disabled
VC statistics:
 packet totals: receive 0, send 0
 byte totals: receive 0, send 0
 packet drops: receive 0, seq error 0, send 0
```

- A. The virtual circuit identifier is 1611 and the virtual circuit is down.
- B. The local label for the circuit is 4006.
- C. The targeted LDP session to the remote peer is up.
- D. The local label for the circuit is 1611.
- E. The virtual circuit identifier is 4006 and the virtual circuit is down.
- F. The circuit is using MPLS VC type 4.

**Answer:** ABC

**QUESTION 560**

Which two statements about 6VPE are true? (Choose two.)

- A. It allows a service provider to use an existing MPLS network to provide VPN services to IPv6 customers.
- B. It uses MP-BGP as the carrier protocol to transport IPv6 connectivity.
- C. It provides IPv6 connectivity to MPLS-VPN customers when IPv6 overlay tunneling is also configured.
- D. It allows a service provider to use an existing MPLS network to provide global addressing to their IPv6 customers.
- E. It requires the configuration of a GRE tunnel tagged with a VLAN ID.
- F. It allows a service provider to use an existing L2TPv3 network to provide VPN services to IPv6 customers.

**Answer:** AB

**QUESTION 561**

Which statement about OTV is true?

- A. The overlay interface becomes active only when configuration is complete and it is manually enabled.
- B. OTV data groups can operate only in PIM sparse-mode.
- C. The overlay interface becomes active immediately when it is configured.
- D. The interface facing the OTV groups must be configured with the highest MTU possible.

**Answer:** A

**QUESTION 562**

Refer to the exhibit. Which two configuration changes enable the user admin to log in to the device? (Choose two.)

```
username admin privilege 15 password SECUREPASSWORD
aaa new-model
aaa authentication login default group tacacs+ local-case
aaa authentication enable default group tacacs+ enable
aaa authorization console
aaa authorization exec default group tacacs+ if-authenticated
aaa authorization commands 1 default group tacacs+ local if-authenticated
aaa authorization commands 4 default group tacacs+ if-authenticated
aaa authorization commands 15 default group tacacs+ local if-authenticated
aaa accounting exec default start-stop group tacacs+
aaa accounting commands 1 default start-stop group tacacs+
aaa accounting commands 15 default start-stop group tacacs+
aaa session-id common
```

- A. Configure the login authentication to be case-insensitive.
- B. Configure the user admin with a password and appropriate privileges.
- C. Configure the login authentication to be case-sensitive.
- D. Modify the configuration to use a named group.

E. Configure additional login authentication under the terminal lines.

**Answer:** AB

**QUESTION 563**

Which two advantages does CoPP have over receive path ACLs? (Choose two.)

- A. Only CoPP applies to IP packets and non-IP packets.
- B. Only CoPP applies to receive destination IP packets.
- C. A single instance of CoPP can be applied to all packets to the router, while rACLs require multiple instances.
- D. Only CoPP can rate-limit packets.

**Answer:** AD

**QUESTION 564**

Which command drops packets with unknown source addresses until you remove a sufficient number of secure MAC addresses to drop below the maximum value, and also causes the Security Violation counter to increment?

- A. switchport port-security violation protect
- B. switchport port-security violation drop
- C. switchport port-security violation shutdown
- D. switchport port-security violation restrict

**Answer:** D

**QUESTION 565**

Which two tasks are required for configuring SNMP to send traps on a Cisco IOS device? (Choose two.)

- A. Create access controls for an SNMP community.
- B. Configure SNMP notifications.
- C. Configure the SNMP agent.
- D. Configure SNMP status monitoring and troubleshooting.
- E. Configure SNMP server group names.
- F. Configure the SNMP server engine ID.

**Answer:** AB

**QUESTION 566**

Which two statements about SNMP traps are true? (Choose two.)

- A. They are sent by an agent after a specified event.
- B. They are sent when solicited after a specified event.
- C. They are equivalent to a community string.
- D. They provide solicited data to the manager.
- E. They are sent by a management station to an agent.
- F. Vendor-specific traps can be configured.

**Answer:** AF

**QUESTION 567**

A configuration includes the line `ip nbar port-map SSH tcp 22 23 443 8080`. Which option describes the effect of this configuration line?

- A. It configures NBAR to search for SSH using ports 22, 23, 443, and 8080.
- B. It configures NBAR to allow SSH connections only on ports 22, 23, 443, and 8080.
- C. It enables NBAR to inspect for SSH connections.
- D. It creates a custom NBAR port-map named SSH and associates TCP ports 22, 23, 443, and 8080 to itself.

**Answer:** A

**QUESTION 568**

Which configuration sets a minimum quality of service on a Layer 2 access switch?

- A. `mls qos cos override`  
`mls qos cos 2`
- B. `mls qos cos 2`
- C. `mls qos trust cos`  
`mls qos cos 2`
- D. `mls qos trust cos`
- E. `mls qos trust dscp`

**Answer:** A

**QUESTION 569**

Which three statements about GLBP are true? (Choose three.)

- A. It uses a virtual MAC address that starts with 0070.b4.
- B. It elects a single active virtual gateway to appoint and manage multiple active virtual forwarders.
- C. It allows the configured virtual IP address to be used on a physical interface as well.
- D. It uses a virtual MAC address that starts with 0070.4b.
- E. It elects multiple active virtual gateways to appoint and manage a single active virtual forwarder.
- F. Preemption is enabled for the configured active virtual gateway by default.

**Answer:** ABC

**QUESTION 570**

Refer to the exhibit. If the route to 10.1.1.1 is removed from the R2 routing table, which server becomes the master NTP server?

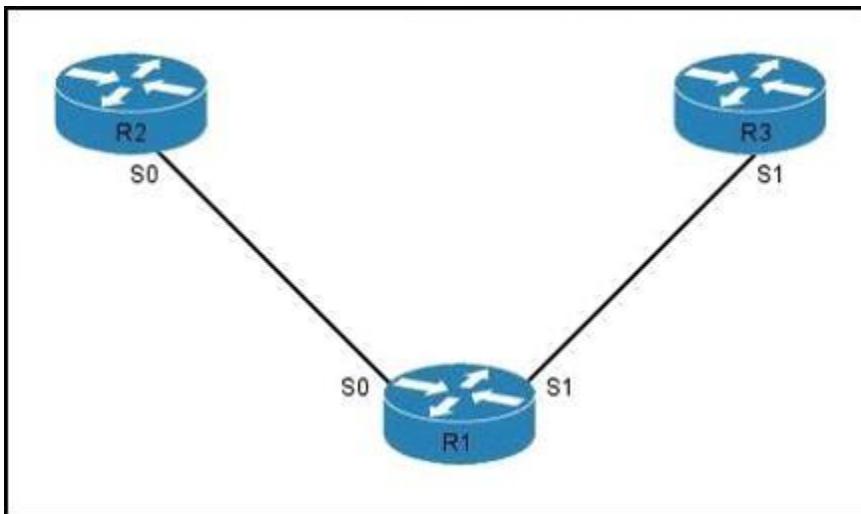
```
R2#show run | include ntp
ntp server 10.1.1.1 prefer
ntp server 10.3.3.3
ntp server 10.4.4.4
```

- A. R2
- B. the NTP server at 10.3.3.3
- C. the NTP server at 10.4.4.4
- D. the NTP server with the lowest stratum number

**Answer: D**

**QUESTION 571**

Refer to the exhibit. Which feature can R1 use to fail over from R2 to R3 if the address for R2 becomes unavailable?



- A. object tracking
- B. HSRP
- C. GLBP
- D. LACP

**Answer: A**

**QUESTION 572**

Refer to the exhibit. Which two options are effects of the given configuration? (Choose two.)

```
Router1#show run
interface FastEthernet0/0
 ip address 10.20.10.1 255.255.255.0
 ip route-cache flow

ip flow-export version 5 origin-as
ip flow-export destination 209.165.200.227 49152
```

- A. It sets the data export destination to 209.165.200.227 on UDP port 49152.
- B. It enables Cisco Express Forwarding on interface FastEthernet0/0.
- C. It configures the export process to include the BGP peer AS of the router gathering the data.
- D. It enables NetFlow switching on interface FastEthernet0/0.
- E. It sets the data export destination to 209.165.200.227 on TCP port 49152.

**Answer:** AD

#### QUESTION 573

Which three options are components of an EEM CLI policy? (Choose three.)

- A. Safe-Tcl
- B. applet name
- C. Fast Tcl
- D. event
- E. action
- F. Tcl bytecode

**Answer:** BDE

#### QUESTION 574

Which option is a core event publisher for EEM?

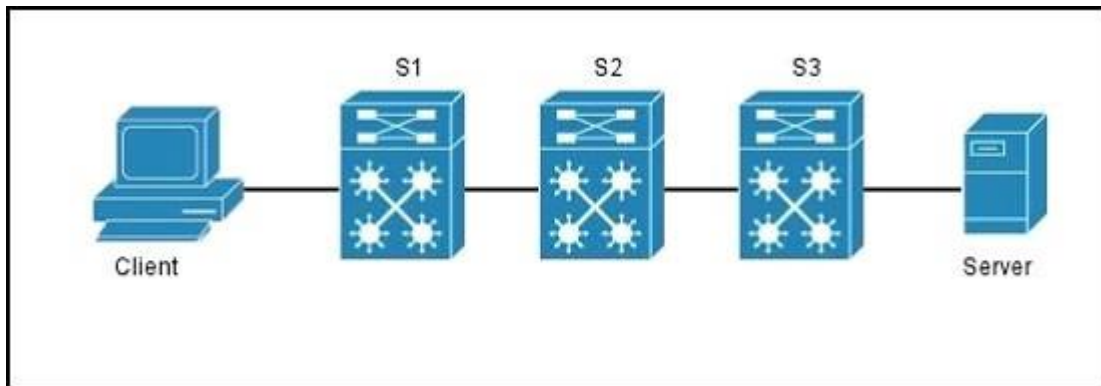
- A. Timer
- B. Policy Director
- C. Applet
- D. Script

**Answer:** A

#### QUESTION 575

Refer to the exhibit. You are configuring the S1 switch for the switch port that connects to the client computer. Which configuration blocks users on the port from using more than 6 Mbps of traffic and marks the traffic for a class of service of 1?





A.

```
class-map match-all cos1
 match any
policy-map cos1
 class cos1
 set cos1
 police cir 6000000 bc 1125000 be 2250000 conform-action
 set-dscp-transmit cs1 exceed-action drop
 violate-action drop
```

B.

```
class-map match-any cos1
 match any
policy-map cos1
 class cos1
 police cir 6000000 bc 1125000 be 2250000 conform-action
 set-dscp-transmit cs1 exceed-action drop
 violate-action drop
```

C.

```
class-map match-all cos1
 match any
policy-map cos1
 class cos1
 set cos1
 policy cir 6000000 conform-action set-dscp-transmit cs1
 exceed-action permit violate-action permit
```

D.

```
class-map match-any cos1
 match any
policy-map cos1
 class cos1
 set cos1
 policy cir 6000000 conform-action transmit exceed-action
 permit violate-action drop
```

**Answer: A**

**QUESTION 576**

Drag and Drop Question

Drag and drop the fragmentation characteristics on the left to the corresponding protocol on the right

|                                       |                    |
|---------------------------------------|--------------------|
| 40 octets                             | IPv6 minimum MTU   |
| fragments packets if DF bit=0         | IPv4 minimum MTU   |
| 1280 octets                           | IPv6 routers       |
| 20 octets                             | IPv4 routers       |
| packet fragmentation is not supported | IPv6 header length |
| 576 octets                            | IPv4 header length |

**Answer:**

|  |                                       |
|--|---------------------------------------|
|  | 1280 octets                           |
|  | 576 octets                            |
|  | packet fragmentation is not supported |
|  | fragments packets if DF bit=0         |
|  | 40 octets                             |
|  | 20 octets                             |

**QUESTION 577**

Drag and Drop Question

Drag and drop the IPv6 multicast feature on the left to its corresponding function on the right.

|                                  |                                                                                        |
|----------------------------------|----------------------------------------------------------------------------------------|
| PIMv2                            | communicates multicast group membership source awareness                               |
| MLDv1                            | uses only shared tree forwarding                                                       |
| MLDv2                            | communicates multicast group membership states from the                                |
| PIM-SSM                          | provides intradomain multicast forwarding for all underlying unicast routing protocols |
| PIM Bi-dir                       | aids IPv6 multicast deployment                                                         |
| IPv6 multicast over IPv4 tunnels | defined for interdomain use to support broadcast applications                          |

**Answer:**

|  |                                  |
|--|----------------------------------|
|  | MLDv2                            |
|  | PIM Bi-dir                       |
|  | MLDv1                            |
|  | PIMv2                            |
|  | IPv6 multicast over IPv4 tunnels |
|  | PIM-SSM                          |

**QUESTION 578**

Drag and Drop Question

Drag and drop the EIGRP term on the left to the corresponding definition on the right.

|                    |                                                                                           |
|--------------------|-------------------------------------------------------------------------------------------|
| adjacency          | the neighbor with the route that has the lowest metric                                    |
| split horizon      | a neighbor whose advertised distance is lower than the                                    |
| successor          | a feature that prevents routing loops                                                     |
| feasible successor | the logical association between two neighbors over which routing information is exchanged |

**Answer:**

|  |                    |
|--|--------------------|
|  | successor          |
|  | feasible successor |
|  | split horizon      |
|  | adjacency          |

#### QUESTION 579

Drag and Drop Question

Drag and drop the EIGRP query condition on the left to the corresponding action taken by the router on the right.

|                                                                        |                                                                                             |
|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| The EIGRP table is missing an entry for the route                      | A feasible successor is installed in the routing table, and a reply                         |
| The EIGRP table lists the querying router as the successor for         | The router replies with the successor information                                           |
| The querying router is the successor, and no feasible successor exists | The router replies to the query with an unreachable message                                 |
| the EIGRP table has a successor                                        | The router send a query on all interfaces except the interface that had the successor route |

**Answer:**

|  |                                                                        |
|--|------------------------------------------------------------------------|
|  | The EIGRP table lists the querying router as the successor for         |
|  | the EIGRP table has a successor                                        |
|  | The EIGRP table is missing an entry for the route                      |
|  | The querying router is the successor, and no feasible successor exists |

### QUESTION 580

Drag and Drop Question

Drag and drop the path-selection criteria on the left into the correct route-selection order on the right, that a router will use when having multiple routes toward the same destination.

|                        |        |
|------------------------|--------|
| external Type 2 routes | first  |
| external Type 1 routes | second |
| intra-area routes      | third  |
| inter-area routes      | fourth |

**Answer:**

|  |                        |
|--|------------------------|
|  | intra-area routes      |
|  | inter-area routes      |
|  | external Type 1 routes |
|  | external Type 2 routes |

### QUESTION 581

Drag and Drop Question

Drag and drop the multiprotocol BGP feature on the left to the corresponding description on the right.

|                                |                                                                     |
|--------------------------------|---------------------------------------------------------------------|
| Multiprotocol Reachable NLRI   | an optional, nontransitive attribute used to withdraw a route       |
| Multiprotocol Unreachable NLRI | a value that indicates whether multiprocol extensions are supported |
| AFI                            | an optional, nontransitive attribute used to advertise a            |
| SAFI                           | a value that identifies a network protocol                          |
| Capability code                | a value that identifies a subtype of network protocol               |

**Answer:**

|  |                                |
|--|--------------------------------|
|  | Multiprotocol Unreachable NLRI |
|  | Capability code                |
|  | Multiprotocol Reachable NLRI   |
|  | AFI                            |
|  | SAFI                           |

#### QUESTION 582

Drag and Drop Question

Drag and drop the MPLS term on the left to the function it performs on the right.



|                         |                                                                        |
|-------------------------|------------------------------------------------------------------------|
| label                   | instructs the router to keep the label when forwarding                 |
| implicit-null           | groups IP packets so that they are given the same forwarding treatment |
| explicit-null           | identifies the group to which an IP packet belongs                     |
| penultimate hop popping | instructs the penultimate router to pop the label before               |
| FEC                     | identifies a layer 2 MPLS connection from one device to                |
| virtual circuit         | pops an MPLS label off one hop before its final destination            |

**Answer:**

|  |                         |
|--|-------------------------|
|  | explicit-null           |
|  | FEC                     |
|  | label                   |
|  | implicit-null           |
|  | virtual circuit         |
|  | penultimate hop popping |

**QUESTION 583**

Drag and Drop Question

Drag and drop the NHRP flag on the left to the corresponding meaning on the right.

|               |                                                                                                                                            |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| authoritative | The NHRP mapping entry was created from an NHRP registration request                                                                       |
| implicit      | NHRP information was obtained from the next hop server that maintains the NBMA-to-IP mapping                                               |
| unique        | NHRP information was learned from a forwarded NHRP packet                                                                                  |
| registered    | The NHRP mapping entry is protected from being overwritten by a mapping address that has the same IP address and a different NBMA address. |

**Answer:**

|  |                                                                                        |
|--|----------------------------------------------------------------------------------------|
|  | registered                                                                             |
|  | authoritative that maintains the NBMA-to-IP mapping                                    |
|  | implicit                                                                               |
|  | unique by a mapping address that has the same IP address and a different NBMA address. |

#### QUESTION 584

Refer to the exhibit. When would the EEM applet be triggered?

```
event manager applet MONITOR
 event interface name FastEthernet0/0 parameter receive_rate_pps entry-op ge entry-val
 10000 entry-type value exit-op le exit-val 1000 exit-type value poll-interval 5
```

- A. every time that the input packet per second counter is below 10,000
- B. every time that the input packet per second counter has increased by 1,000
- C. every time that the input packet per second counter is above 10,000
- D. every time that the input packet per second counter has decreased by 1,000

**Answer: C**

#### QUESTION 585

Refer to the exhibit. Based on the above commands, when will the output of the show log command be saved?

```
process cpu threshold type total rising 80 interval 5 falling 50 interval 5
event manager applet CCIE
event syslog pattern "SYS-1-CPUFALLINGTHRESHOLD"
action 1.1 cli command "enable"
action 1.2 cli command "show log | a flash:LOG"
```

- A. Each time the total CPU utilization goes below 50 percent
- B. Each time the total CPU utilization goes above 80 percent
- C. Every 5 minutes while the total CPU utilization is above 80 percent
- D. Every 5 seconds while the total CPU utilization is above 80 percent
- E. Every 5 minutes while the total CPU utilization is below 50 percent
- F. Every 5 seconds while the total CPU utilization is below 50 percent

**Answer: F**

**Explanation:**

the cpu threshold generates syslog messages when it goes above 80 % and when it comes back down below 50% after being above 80%.

It checks cpu utilization every 5 seconds.

When the cpu has been above 80%, and has come back below 50%, the syslog message SYS-1-CPUFALLINGTHRESHOLD is generated

-that's when the "show log" command is triggered

The closest answer is "Each time the total CPU goes below 50 percent"

**QUESTION 586**

Refer to the exhibit. Which of the following options will trigger the applet?

```
event manager applet SCRIPT
event none
```

- A. an external Cisco IOS event
- B. a manually run policy event
- C. a preconfigured timer
- D. an automated RPC call

**Answer: B**

**Explanation:**

There are two ways to manually run an EEM policy. EEM usually schedules and runs policies on the basis of an event specification that is contained within the policy itself. The event none command allows EEM to identify an EEM policy that can either be run manually or be run when an EEM applet is triggered. To run the policy, use either the action policy command in applet configuration mode or the event manager run command in global configuration mode.

**QUESTION 587**

In GLBP, which router will answer on client ARP requests?

- A. all active AVF routers as the first response is used by the client
- B. the AVG router, replying with a different AVF MAC address each time
- C. a random AVF router, based on a GLBP seed hash key
- D. only the AVG router that received the ARP request first

**Answer: B**

**Explanation:**

LBP Active Virtual Gateway

Members of a GLBP group elect one gateway to be the active virtual gateway (AVG) for that group. Other group members provide backup for the AVG in the event that the AVG becomes unavailable. The AVG assigns a virtual MAC address to each member of the GLBP group. Each gateway assumes responsibility for forwarding packets sent to the virtual MAC address assigned to it by the AVG. These gateways are known as active virtual forwarders (AVFs) for their virtual MAC address. The AVG is responsible for answering Address Resolution Protocol (ARP) requests for the virtual IP address.

Load sharing is achieved by the AVG replying to the ARP requests with different virtual MAC addresses.

[http://www.cisco.com/en/US/docs/ios/12\\_2t/12\\_2t15/feature/guide/ft\\_glbp.html#wp1039649](http://www.cisco.com/en/US/docs/ios/12_2t/12_2t15/feature/guide/ft_glbp.html#wp1039649)

**QUESTION 588**

Refer to the exhibit. What is true about traffic from the INSIDE zone to the OUTSIDE zone?

```
!
class-map type inspect match-all CMAP_ICMP
 match protocol icmp
!
policy-map type inspect PMAP_A_B
 class type inspect CMAP_ICMP
 inspect
 class class-default
 drop
!
zone security INSIDE
zone security OUTSIDE
zone-pair security A_B source INSIDE destination OUTSIDE
 service-policy type inspect PMAP_A_B
!
interface FastEthernet0/0
 ip address 10.48.67.125 255.255.254.0
 zone-member security OUTSIDE
 duplex auto
 speed auto
!
!
interface FastEthernet0/1
 ip address 192.168.101.1 255.255.255.0
 zone-member security INSIDE
 duplex auto
 speed auto
!
!
```

- A. All icmp echo requests will be inspected.
- B. All IP traffic will be dropped.
- C. All icmp echo requests will be passed, but the icmp echo reply to the echo request from the OUTSIDE zone will be dropped. /..I
- D. All IP traffic will be inspected.

**Answer: A**

**Explanation:**

When the traffic moves from inside to outside zone, ICMP echo requests will be inspected because the inspection is set using policy-map-type command is used.

**QUESTION 589**

What is also called Type 0 authentication in OSPF on Cisco Routers?

- A. MD5
- B. There is no Type 0 authentication
- C. SHA1
- D. Null

**Answer: D**

**Explanation:**

These are the three different types of authentication supported by OSPF. Null Authentication-- This is also called Type 0 and it means no authentication information is included in the packet header. It is the default.

Plain Text Authentication--This is also called Type 1 and it uses simple clear-text passwords.

MD5 Authentication--This is also called Type 2 and it uses MD5 cryptographic passwords.

**QUESTION 590**

Refer to the exhibit. Which two statements are correct, when the QoS configuration is applied in an outbound direction on a 10-Mb/s interface? (Choose two.)

```
Class-map VIDEO
Match ip precedence 5
Class-map FTP
Match ip precedence 1

policy-map TEST
class VIDEO
priority 200
class FTP
bandwidth 1000
class class-default
random-detect
```

- A. When reaching 10 Mb/s of input rate, the video class will be policed to 200 kb/s.
- B. The class FTP is allowed to reach more than 1 Mb/s in the event of congestion.
- C. IP precedence 1 traffic is affected by a drop probability.
- D. Video traffic above 200 kb/s is allowed to pass when the total interface output rate does not reach 10 Mb/s.
- E. Video traffic above 200 kb/s is allowed to pass when congestion is present.

**Answer: BD**

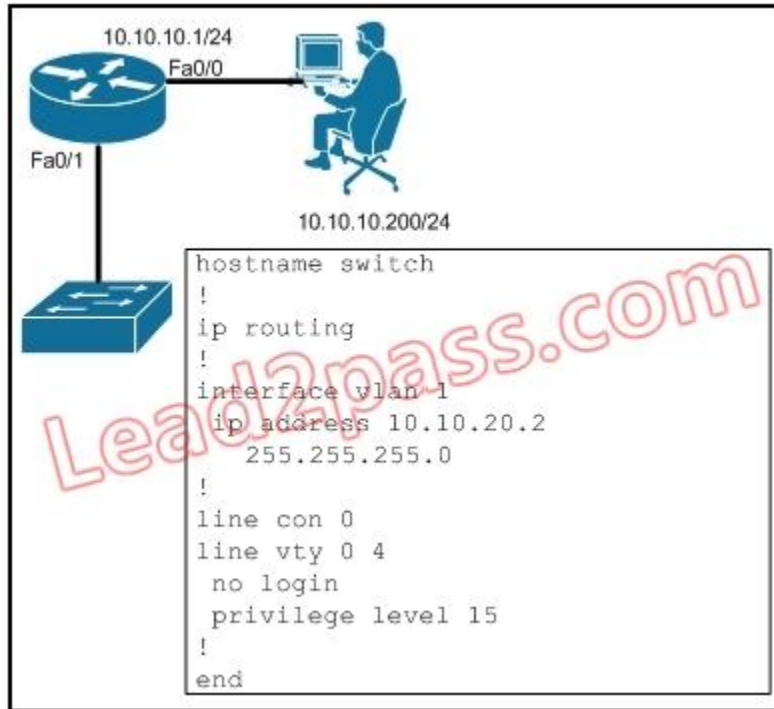
**Explanation:**

<http://www.cisco.com/en/US/docs/security/asa/asa82/configuration/guide/intrface.html>

**QUESTION 591**

Refer to the exhibit. A user with IP address 10.10.10.200 fails to use Telnet to a switch with IP address 10.10.20.2.

What is most likely the issue?



- A. The switch is not configured with a default gateway.
- B. The HTTP server is not enabled on the switch.
- C. STP is blocking the connection from switch to router.
- D. IP routing is enabled on the switch, but no route pointing back to the client is configured.
- E. The switch is configured with an IP address from the wrong subnet.

**Answer: D**

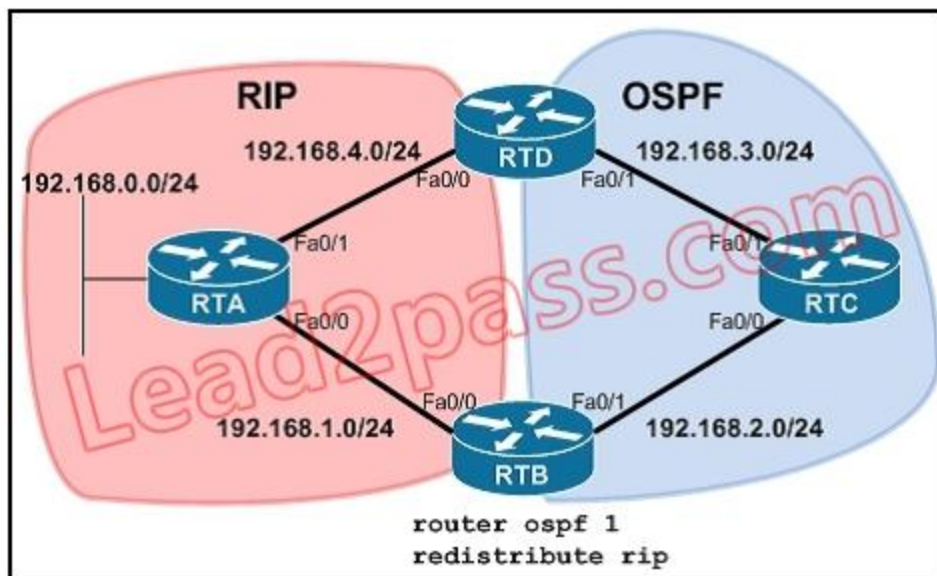
**Explanation:**

As you can see in the exhibit that IP routing is enabled on the switch but no route is pointing back to the client. The ip address of interface vlan 1 is given but after that nothing!

**QUESTION 592**

Refer to the exhibit. Router RTB is performing one-way redistribution from RIP to OSPF. Which outgoing interface will router RTD choose for packets to the 192.168.0.0/24 network, and why?



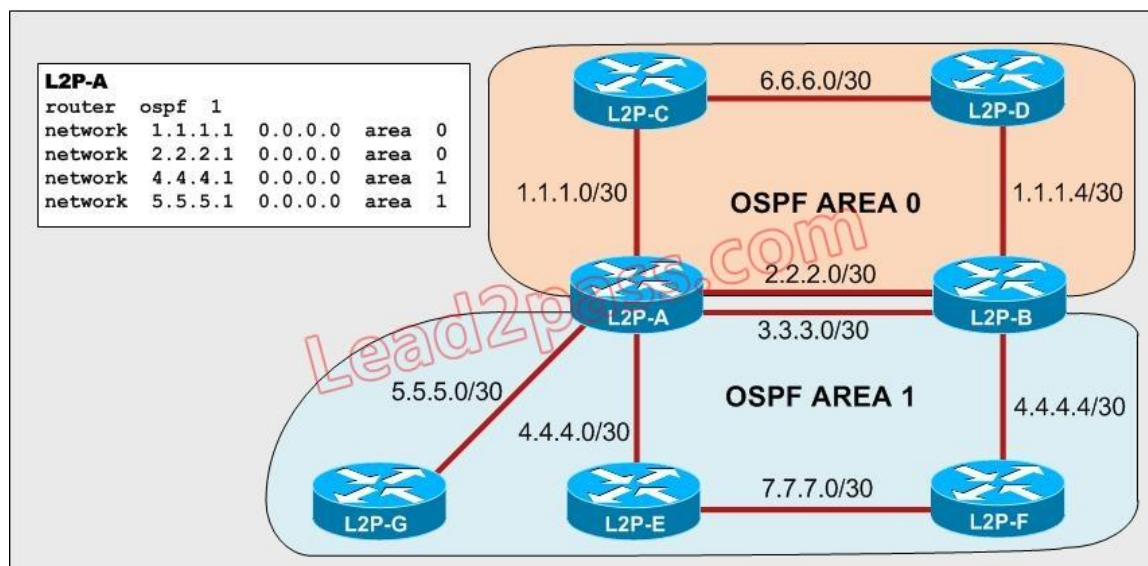


- A. Fa0/1, because OSPF is a link-state routing protocol
- B. Fa0/0, because RIP is a distance vector protocol
- C. Fa0/0, because RIP has a higher administrative distance
- D. Fa0/0, because OSPF has a lower administrative distance
- E. Fa0/1, because OSPF has a lower administrative distance
- F. Fa0/1, because RIP has a lower administrative distance

**Answer: E**

#### QUESTION 593

Refer to the exhibit. What is the potential issue with this configuration?



- A. There is no potential issue; OSPF will work fine in any condition.
- B. Sub-optimal routing may occur since there is no area 1 adjacency between the ABRs.

- C. This is a wrong OSPF configuration because all routers must be in area 0 only.  
D. This is a wrong OSPF configuration because /30 requires 0.0.0.3 wild card.

**Answer: B**

**Explanation:**

The primary difference is that the GRE tunnel hides the real recipients under the outer IP header. The "transit" area, in that case, does not need to actually know all the prefixes. What it needs, though, is a default route that points towards the backbone. Suboptimal routing may occur, then, because the traffic from the "transit" area must first reach the backbone in order to get GRE-encapsulated and carried again through the "transit" area to the disconnected area.

#### QUESTION 594

Refer to the exhibit. What triggered the first SPF recalculation?

|                                                    |       |         |      |        |     |       |       |          |
|----------------------------------------------------|-------|---------|------|--------|-----|-------|-------|----------|
| C1#show ip ospf statistics                         |       |         |      |        |     |       |       |          |
| OSPF Router with ID (11.100.1.11) (Process ID 100) |       |         |      |        |     |       |       |          |
| Area 0: SPF algorithm executed 2 times             |       |         |      |        |     |       |       |          |
| Summary OSPF SPF statistic                         |       |         |      |        |     |       |       |          |
| SPF calculation time                               |       |         |      |        |     |       |       |          |
| Delta T                                            | Intra | D-Intra | Summ | D-Summ | Ext | D-Ext | Total | Reason   |
| 00:05:12                                           | 0     | 0       | 0    | 0      | 0   | 0     | 0     | R, SN, X |
| 00:05:02                                           | 0     | 0       | 0    | 0      | 0   | 0     | 0     | R, SN, X |
| 00:02:57                                           | 0     | 0       | 0    | 0      | 0   | 0     | 0     | X        |

- A. changes in a router LSA, subnet LSA, and external LSA  
B. changes in a router LSA, summary network LSA, and external LSA  
C. changes in a router LSA, summary network LSA, and summary ASBR LSA  
D. changes in a router LSA, summary ASBR LSA, and external LSA

**Answer: B**

**Explanation:**

OSPFv2 is built around links, and any IP prefix change in an area will trigger a full SPF. It advertises IP information in Router and Network LSAs. The routers thus, advertise both the IP prefix information (or the connected subnet information) and topology information in the same LSAs. This implies that if an IP address attached to an interface changes, OSPF routers would have to originate a Router LSA or a Network LSA, which btw also carries the topology information. This would trigger a full SPF on all routers in that area, since the same LSAs are flooded to convey topological change information. This can be an issue with an access router or the one sitting at the edge, since many stub links can change regularly.

Only changes in interarea, external and NSSA routes result in partial SPF calculation (since type 3, 4, 5 and 7 LSAs only advertise IP prefix information) and thus IS-IS's PRC is more pervasive than OSPF's partial SPF.

This difference allows IS-IS to be more tolerant of larger single area domains whereas OSPF forces hierarchical designs for relatively smaller networks. However with the route leaking from L2 to L1 incorporated into IS-IS the apparent motivation for keeping large single area domains too goes away. SPF is calculated in three phases. The first is the calculation of intra-area routes by building the shortest path tree for each attached area. The second phase calculates the inter-area routes by examining the summary LSAs and the last one examines the AS-External-LSAs to calculate the routes to the external destinations.

#### QUESTION 595

Which two orders in the BGP Best Path Selection process are correct? (Choose two.)

- A. Higher local preference, then lowest MED, then eBGP over iBGP paths

- B. Higher local preference, then highest weight, then lowest router ID
- C. Highest weight, then higher local preference, then shortest AS path
- D. Lowest origin type, then higher local preference, then lowest router ID
- E. Highest weight, then higher local preference, then highest MED

**Answer:** AC

**Explanation:**

Weight is the first attribute BGP uses in the route selection process. Route with a higher weight is preferred when multiple routes exist to the same destination.

**QUESTION 596**

Refer to the exhibit. How will traffic be split between the routers, assuming that there are many hosts on this subnet?

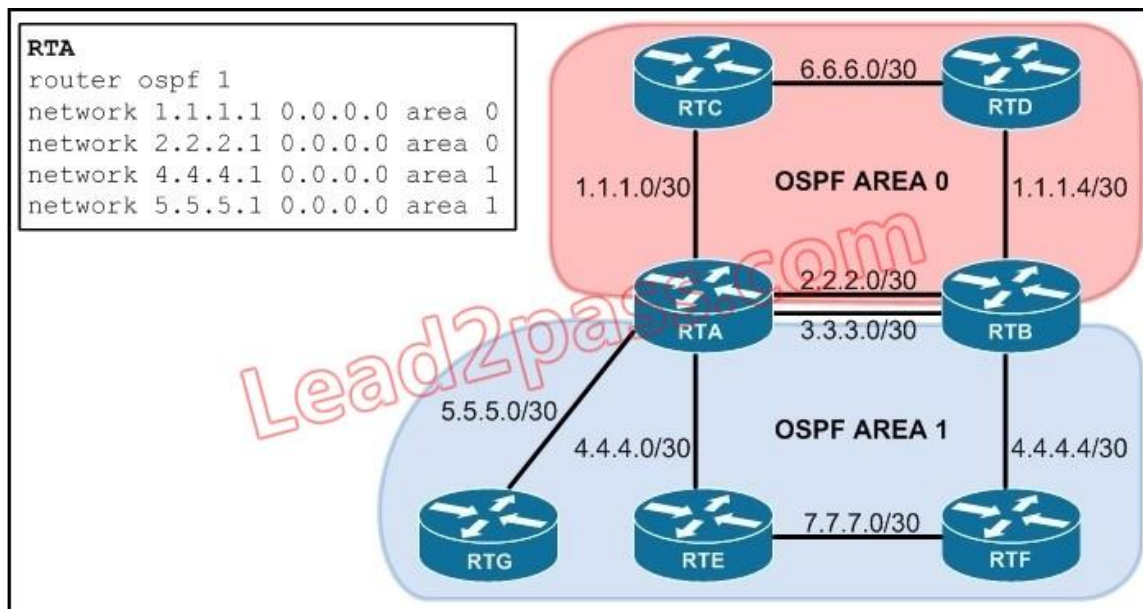
```
R100#show glbp
Ethernet0/0 - Group 150
 State is Active
 Virtual IP address is 10.1.1.150
 Preemption enabled, min delay 0 sec
 Active is local
 Standby is 10.1.1.101, priority 100 (expires in 8.128 sec)
 Priority 150 (configured)
 Weighting 50 (configured 50), thresholds: lower 1, upper 50
 Load balancing: round-robin
 Group members:
 aabb.cc00.6400 (10.1.1.100) local
 aabb.cc00.6500 (10.1.1.101)
 There are 2 forwarders (1 active)
 Forwarder 1
 State is Active
 1 state change, last state change 00:07:56
 Redirection enabled
 Preemption enabled, min delay 30 sec
 Active is local, weighting 10
 Forwarder 2
 State is Listen
 Redirection enabled, 599.360 sec remaining (maximum 600 sec)
 Time to live: 14399.360 sec (maximum 14400 sec)
 Active is 10.1.1.101 (primary), weighting 30 (expires in 10.432 sec)
```

- A. All traffic will be sent to the primary router (10.1.1.100).
- B. Traffic will be split equally between the two routers (10.1.1.100 and 10.1.1.101).
- C. Traffic will be split 25% (10.1.1.101) / 75% (10.1.1.100) between the two routers.
- D. Traffic will be split 75% (10.1.1.101) / 25% (10.1.1.100) between the two routers.

**Answer:** D

**QUESTION 597**

Refer to the exhibit. A packet from RTD with destination RTG, is reaching RTB. What is the path this packet will take from RTB to reach RTG?



- A. RTB - RTA - RTG
- B. RTB - RTD - RTC - RTA - RTG
- C. RTB - RTF - RTE - RTA - RTG
- D. RTB will not be able to reach RTG since the OSPF configuration is wrong.

**Answer: C**

**Explanation:**

NOTE: I strongly suspect this question is wrong. There is no way to find the destination without additional information. So this is a wrong question. The exhibit doesn't provide enough information to calculate the path of the packet

#### QUESTION 598

Refer to the exhibit. Which path is selected as best path?

```

R1# show ip bgp 10.1.0.1
BGP routing table entry for 10.1.0.0/16, version 11
Paths: (2 available, best #?, table Default-IP-Routing-Table)
 Advertised to non peer-group peers:
 2
 65000
 10.168.30.4 (metric 74) from 3.3.3.3 (3.3.3.3)
 Origin IGP, metric 100, localpref 100, valid, internal
 65000
 10.168.20.4 from 192.168.20.4 (4.4.4.4)
 Origin IGP, metric 200, localpref 100, valid, external

```

- A. path 1, because it is learned from IGP
- B. path 1, because the metric is the lowest
- C. path 2, because it is external
- D. path 2, because it has the higher router ID



**Answer: B**

**Explanation:**

Metrics is a property of a route in computer networking, consisting of any value used by a routing protocol to determine whether one particular route should be chosen over another. The routing table stores only the best possible routes, while link-state or topological databases may store all other information as well. For example, Routing Information Protocol uses hopcount (number of hops) to determine the best possible route. The route will go in the direction of the gateway with the lowest metric (default gateway).

**QUESTION 599**

What is the first thing that happens when IPv6 is enabled on an interface on a host?

- A. A router solicitation is sent on that interface.
- B. There is a duplicate address detection on the host interface.
- C. The link local address is assigned on the host interface.
- D. A neighbor redirect message is sent on the host interface.

**Answer: B**

**Explanation:**

Duplicate address detection (DAD) is used to verify that an IPv6 home address is unique on the LAN before assigning the address to a physical interface (for example, QDIO). z/OS Communications Server responds to other nodes doing DAD for IP addresses assigned to the interface.

**QUESTION 600**

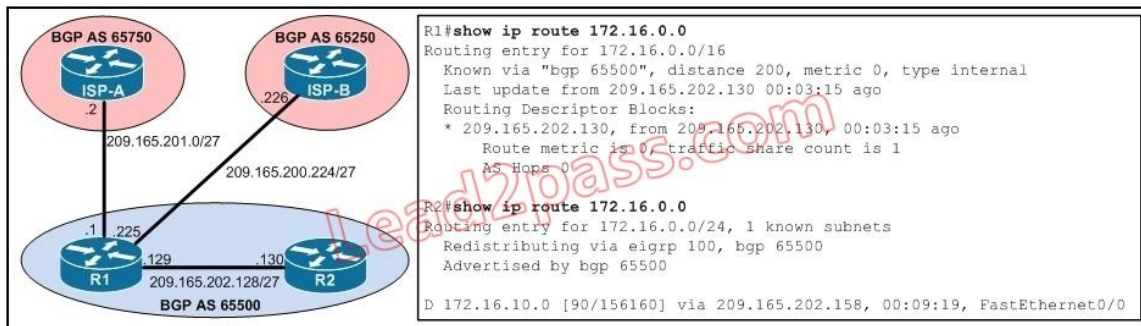
What is the flooding scope of an OSPFv3 LSA, if the value of the S2 bit is set to 1 and the S1 bit is set to 0?

- A. link local
- B. area wide
- C. AS wide
- D. reserved

**Answer: C**

**QUESTION 601**

Refer to the exhibit. R1 is not learning about the 172.16.10.0 subnet from the BGP neighbor R2 (209.165.202.130). What can be done so that R1 will learn about this network?



- A. Disable auto-summary on R2.
- B. Configure an explicit network command for the 172.16.10.0 subnet on R2.
- C. Subnet information cannot be passed between IBGP peers.
- D. Disable auto-summary on R1.

**Answer: B**

**Explanation:**

By default, BGP does not accept subnets redistributed from IGP. To advertise and carry subnet routes in BGP, use an explicit network command or the no auto-summary command. If you disable auto-summarization and have not entered a network command, you will not advertise network routes for networks with subnet routes unless they contain a summary route.

**QUESTION 602**

Refer to the exhibit. After a link flap in the network, which two EIGRP neighbors will not be queried for alternative paths? (Choose two.)

```
r13#show ip eigrp nei det
IP-EIGRP neighbors for process 100
```

| H                                                     | Address     | Interface | Hold (sec) | Uptime   | SRTT (ms) | RTO | Q Cnt | Seq Num |
|-------------------------------------------------------|-------------|-----------|------------|----------|-----------|-----|-------|---------|
| 1                                                     | 192.168.1.1 | Et0/0     | 9999       | 00:20:26 | 9         | 200 | 0     | 9       |
| Version 12.4/1.2, Retrans: 0, Retries: 0, Prefixes: 1 |             |           |            |          |           |     |       |         |
| 4                                                     | 192.168.3.7 | Et0/2     | 10         | 00:21:07 | 25        | 200 | 0     | 27      |
| Version 12.4/1.2, Retrans: 0, Retries: 0              |             |           |            |          |           |     |       |         |
| Stub Peer Advertising ( STATIC ) Routes               |             |           |            |          |           |     |       |         |
| Suppressing queries                                   |             |           |            |          |           |     |       |         |
| 3                                                     | 192.168.3.8 | Et0/2     | 12         | 00:21:26 | 26        | 200 | 0     | 25      |
| Version 12.4/1.2, Retrans: 0, Retries: 0              |             |           |            |          |           |     |       |         |
| Stub Peer Advertising ( SUMMARY ) Routes              |             |           |            |          |           |     |       |         |
| Suppressing queries                                   |             |           |            |          |           |     |       |         |
| 2                                                     | 192.168.3.6 | Et0/2     | 14         | 00:33:41 | 16        | 200 | 0     | 19      |
| Restart time 00:33:14                                 |             |           |            |          |           |     |       |         |
| Version 12.4/1.2, Retrans: 0, Retries: 0, Prefixes: 1 |             |           |            |          |           |     |       |         |
| 0                                                     | 192.168.2.1 | Et0/1     | 9999       | 00:43:06 | 17        | 200 | 0     | 6       |
| Restart time 00:33:14                                 |             |           |            |          |           |     |       |         |
| Version 12.4/1.2, Retrans: 2, Retries: 0, Prefixes: 1 |             |           |            |          |           |     |       |         |
| 5                                                     | 192.168.3.9 | Et0/2     | 11         | 00:33:41 | 16        | 200 | 0     | 19      |
| Restart time 00:33:14                                 |             |           |            |          |           |     |       |         |
| Version 12.4/1.2, Retrans: 0, Retries: 0, Prefixes: 1 |             |           |            |          |           |     |       |         |

- A. 192.168.1.1
- B. 192.168.3.7
- C. 192.168.3.8
- D. 192.168.3.6
- E. 192.168.2.1
- F. 192.168.3.9

**Answer: BC**

**Explanation:**

Both 192.168.3.7 & 192.168.3.8 are in an EIGRP Stub area

The Enhanced Interior Gateway Routing Protocol (EIGRP) Stub Routing feature improves network stability, reduces resource utilization, and simplifies stub router configuration. Stub routing is commonly used in a hub and spoke network topology. In a hub and spoke network, one or more end (stub) networks are connected to a remote router (the spoke) that is connected to one or more distribution routers (the hub). The remote router is adjacent only to one or more



distribution routers. The only route for IP traffic to follow into the remote router is through a distribution router. This type of configuration is commonly used in WAN topologies where the distribution router is directly connected to a WAN. The distribution router can be connected to many more remote routers. Often, the distribution router will be connected to 100 or more remote routers. In a hub and spoke topology, the remote router must forward all nonlocal traffic to a distribution router, so it becomes unnecessary for the remote router to hold a complete routing table. Generally, the distribution router need not send anything more than a default route to the remote router.

When using the EIGRP Stub Routing feature, you need to configure the distribution and remote routers to use EIGRP, and to configure only the remote router as a stub. Only specified routes are propagated from the remote (stub) router. The router responds to queries for summaries, connected routes, redistributed static routes, external routes, and internal routes with the message "inaccessible." A router that is configured as a stub will send a special peer information packet to all neighboring routers to report its status as a stub router. Any neighbor that receives a packet informing it of the stub status will not query the stub router for any routes, and a router that has a stub peer will not query that peer. The stub router will depend on the distribution router to send the proper updates to all peers.

### QUESTION 603

Refer to the exhibit. Why is AS 65333 in parentheses?

```
BGP table version is 11, local router ID is 192.168.3.2
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
 r RIB-failure, S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete
```

| Network         | Next Hop    | Metric | LocPrf | Weight | Path            |
|-----------------|-------------|--------|--------|--------|-----------------|
| * 172.16.1.0/24 | 172.16.1.1  | 0      | 100    | 0      | (65333) 62000 ? |
| *>i             | 192.168.2.1 | 0      | 100    | 0      | 62000 ?         |

- A. It is an external AS.
- B. It is a confederation AS.
- C. It is the AS of a route reflector.
- D. It is our own AS.
- E. A route map has been applied to this route.
- F. The BGP next hop is unreachable.

**Answer: B**

#### Explanation:

The AS numbers that are part of the confederation are grouped between parentheses and are replaced by the confederation identifier (the real AS number) in nonconfederation eBGP sessions. .

### QUESTION 604

Refer to the exhibit. Which action would make the router the active VRRP router?

```
Router#show vrrp
Ethernet0/0 - Group 30
 State is Backup
 Virtual IP address is 10.1.1.30
 Virtual MAC address is 0000.5e00.011e
 Advertisement interval is 1.000 sec
 Preemption enabled
 Priority is 45 (cfgd 100)
 Track object 1 state Down decrement 55
 Track object 2 state Up decrement 55
 Master Router is 10.1.1.101, priority is 50
 Master Advertisement interval is 1.000 sec
 Master Down interval is 3.414 sec (expires in 2.982 sec)

Router#show run | inc track
track 1 interface Serial1/0 line-protocol
track 2 interface Serial1/1 line-protocol
```

- A. Recover interface Serial 1/0.
- B. Increase priority in the configuration to 100.
- C. Change the interface tracking priority to 100.
- D. Recover interface Serial 1/1.

**Answer:** A

**Explanation:**

As VRRP Group 30 is configured with preemption all that is required is that the VRRP Priority be higher than that of the current active VRRP router and the current master router priority is 50.

#### QUESTION 605

Refer to the Exhibit. The displayed QoS configuration has been configured on a router. IPv6 is being implemented on the router, and it is required to convert the QoS policy to support both IPv4 and IPv6 on the same class. Which alternative configuration would allow matching DSCP AF41 for both IPv4 and IPv6 on the same class map?

```
!
class-map match-all CLASS1
 match ip dscp af41
!
```

- A. Class-map match-all CLASS1  
Match dscp af41
- B. Class-map match-all CLASS1  
Match ip dscp af41  
Match ipv6 dscp af41
- C. Class-map match-any CLASS1  
Match ip dscp af41  
Match ipv6 dscp af41
- D. Class-map match-any CLASS1

Match qos-group af41

**Answer:** A

**QUESTION 606**

Voice quality is bad due to high delay and jitter on a link. Which two actions will improve the quality of voice calls? (Choose two.)

- A. Increase the queue size of the voice class.
- B. Guarantee bandwidth during congestion to the voice class with a bandwidth command.
- C. Increase the tx-ring of the egress interface.
- D. Implement LLQ for the voice class.
- E. Decrease the rx-ring of the egress interface.
- F. Decrease the queue size of the voice class.

**Answer:** DF

**QUESTION 607**

Refer to the exhibit. On what will the config class-map VOICE match?

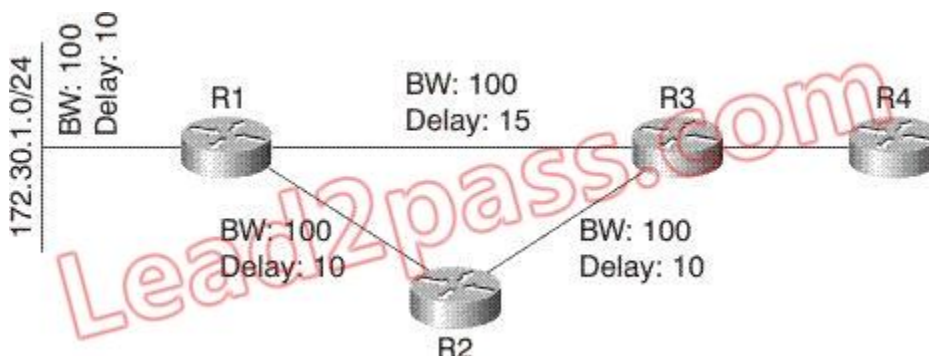
```
access-list 101 permit udp any any range 16384 32767
!
Class-map match-any VOICE
Match access-group 101
Match ip dscp ef
```

- A. only on UDP traffic between port ranges 16384 and 32767
- B. only on DSCP EF traffic
- C. on UDP traffic between port ranges 16384 and 32767, and on DSCP EF traffic
- D. only on EF traffic that is UDP and within the UDP range of 16384 and 32767

**Answer:** C

**QUESTION 608**

Refer to the exhibit. Assuming that the routing protocol for this network is EIGRP, if the link between R1 and R3 failed, what would R4 receive from R3?



- A. R4 would receive an update noting R3's higher cost to reach 172.30.1.0/24.

- B. R4 would not receive any updates or queries, since R3 would simply move to the path through R2.
- C. R4 would receive a query, since R3 would mark 172.30.1.0/24 as active when the link between R1 and R4 failed.
- D. R4 would not receive any packets, since R3 is not using the link to R1 to reach 172.30.1.0/24.

**Answer: A**

#### QUESTION 609

Which three statements accurately describe a link-state routing protocol? (Choose three.)

- A. Each router sends routing information to all nodes in the flooding domain.
- B. Each router sends all or some portion of its routing table to neighboring routers.
- C. Each router individually builds a picture of the entire flooding domain.
- D. Each router has knowledge of all other routers in the flooding domain.
- E. Each router is only aware of neighboring routers.
- F. Each router installs routes directly from the routing updates into the routing table.

**Answer: ACD**

#### QUESTION 610

Refer to the exhibit. What is true about the configuration in this exhibit?

```
class-map type inspect match-all c1
 match access-group 101
 match protocol http
policy-map type inspect pl
 class type inspect c1
 drop
```

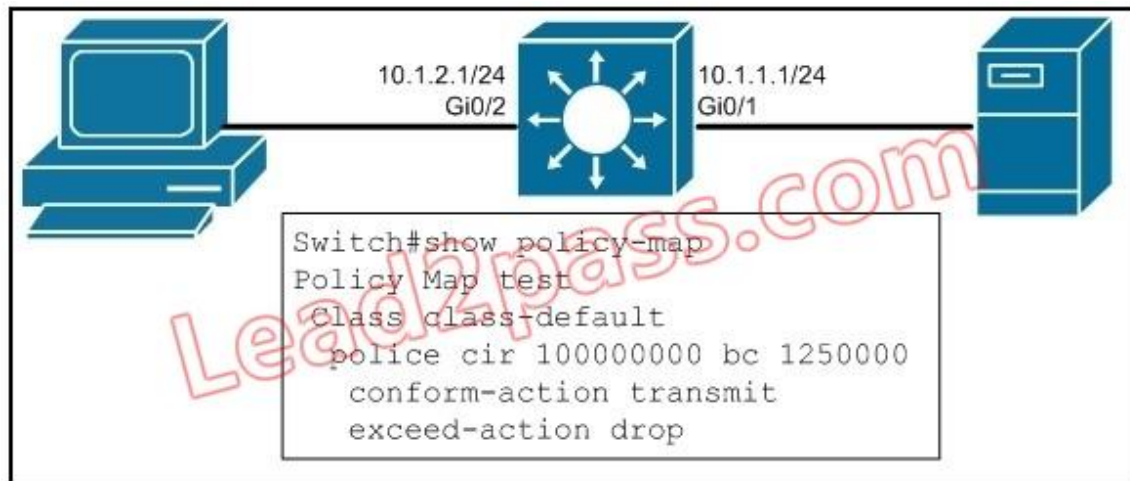
- A. It is an invalid configuration because it includes both an application layer match and a Layer 3 ACL.
- B. It will create a class map that matches the content of ACL 101 and the HTTP protocol, and will then create an inspection policy that will drop packets at the class map.
- C. It will create a class map that matches the content of ACL 101 and the HTTP protocol, and will then create an inspection policy that will allow packets at the class map.
- D. It will create a class map that matches the content of ACL 101 or the HTTP protocol (depending on the zone of the interface), and will then create an inspection policy that will drop packets at the class map.
- E. It will create a class map that matches the content of ACL 101 or the HTTP protocol (depending on the zone of the interface), and will then create an inspection policy that will allow packets at the class map.
- F. It is an invalid configuration because the class map and policy map names must match.

**Answer: B**

#### QUESTION 611

Refer to the exhibit. You are trying to police down to 100 Mb/s. While testing, you notice that you

rarely exceed 70-80 Mb/s. What do you need to change in your MQC configuration to allow for 100 Mb/s speeds?



- A. Change the CIR value from 100 Mb/s to 200 Mb/s.
- B. Change the Bc value to allow for a large enough burst.
- C. Change the QoS queue from default to priority.
- D. Change the exceed-action to transmit.

**Answer: B**

**Explanation:**

Burst size--Also called the Committed Burst (Bc) size, it specifies in bits (or bytes) per burst how much traffic can be sent within a given unit of time to not create scheduling concerns. (For a shaper, such as GTS, it specifies bits per burst; for a policer, such as CAR, it specifies bytes per burst.)

**QUESTION 612**

Which feature would prevent guest users from gaining network access by unplugging an IP phone and connecting a laptop computer?

- A. IPsec VPN
- B. SSL VPN
- C. port security
- D. port security with statically configured MAC addresses
- E. private VLANs

**Answer: D**

**QUESTION 613**

After applying a new ACL on a device, its CPU utilization rose significantly and many messages starting with "%SEC-6-IPACCESSLOG" appeared on the Syslog server. What can be done to resolve this situation?

- A. Increase memory allocation for ACLs.
- B. Remove all entries from the ACL and use a single permit ip any any statement.

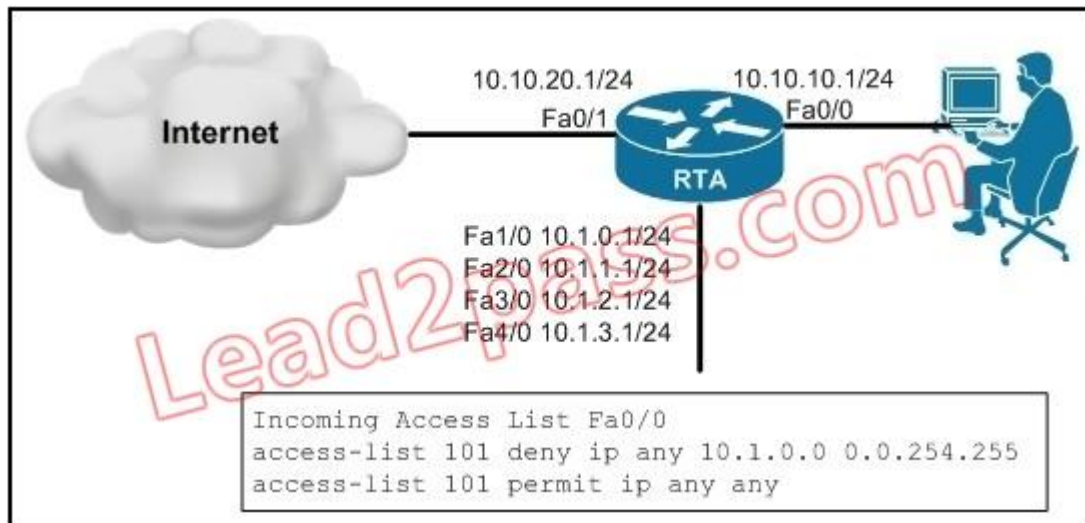


- C. Remove the log keyword from each ACL entry.
- D. Reboot the device after the ACL has been applied.

**Answer: C**

**QUESTION 614**

Refer to the exhibit. Clients that are connected to Fa0/0 of RTA are only allowed to connect to the Internet and networks, but not the networks on Fa1/0, Fa2/0, Fa3/0 and Fa4/0. To achieve this, you have configured an ACL on RTA and applied it on the incoming direction of interface Fa0/0. After you apply this ACL, you learn that some of these networks are still accessible for clients that are connected to the 10.10.10.0/24 network. What is the correct ACL configuration to solve this issue?



- A. access-list 101 deny ip any 10.1.0.0 0.0.1.255  
access-list 101 permit ip any any
- B. access-list 101 permit ip any 10.1.0.0 0.0.1.255  
access-list 101 deny ip any any
- C. access-list 101 deny ip any 10.1.0.0 0.0.252.255  
access-list 101 permit ip any any
- D. access-list 101 deny ip any 10.1.0.0 0.0.3.255  
access-list 101 permit ip any any

**Answer: D**

**Explanation:**

Access-lists use a wild card mask which is incorrectly configured in the above example Reference

**QUESTION 615**

You are the network administrator of a medium-sized company, and users are complaining that they cannot send emails to some organizations. During your troubleshooting, you notice that your DNS MX record is blacklisted by several public blacklist filters. After clearing these listings for your IP address, and assuming that your email server has the right virus protection in place, what are two possible solutions to prevent this from happening in the future? (Choose two.)

- A. Change your Internet provider.



- B. Change your public IP address.
- C. Allow the email server to send traffic only to TCP port 25.
- D. Put your email server in a DMZ.
- E. Use a separate public IP address for your email server only.

**Answer:** CE

#### QUESTION 616

Refer to the exhibit. What can be done to remove the summary routes to Null0 on R3?

```
R3#show ip route
...
Gateway of last resort is not set

 209.165.200.0/24 is variably subnetted, 2 subnets, 2 masks
C 209.165.200.224/27 is directly connected, Serial0/0/0
D 209.165.200.0/24 is a summary, 00:01:27, Null0
 209.165.201.0/27 is subnetted, 1 subnets
D 209.165.201.0 [90/20514560] via 209.165.200.242, 20:41:09, Serial0/0/0
 209.165.202.0/24 is variably subnetted, 2 subnets, 2 masks
C 209.165.202.128/27 is directly connected, FastEthernet0/0
D 209.165.202.0/24 is a summary, 00:01:27, Null0

R3#show ip eigrp neighbors
IP-EIGRP neighbors for process 100
H Address Interface Hold Uptime SRTT RTO Q Seq
 (sec) (ms) Cnt Num
1 209.165.202.155 Fa0/0 10 00:23:31 1 200 0 7
0 209.165.200.242 Se0/0/0 158 20:41:25 211 1266 0 67
```

- A. Configure the EIGRP routing subcommand no auto-summary on 209.165.202.155.
- B. Configure the EIGRP routing subcommand no auto-summary on 209.165.202.24.
- C. Configure the EIGRP routing subcommand no auto-summary on both 209.165.202.155 and 209.165.202.242.
- D. Configure the EIGRP routing subcommand no auto-summary on R3.

**Answer:** D

#### Explanation:

Disabling automatic summarization will remove the Null0 summary route and allow EIGRP to look for a supernet or default route when an EIGRP child route does not match a destination packet.

#### QUESTION 617

Refer to the exhibit. R4 is configured as a receive-only EIGRP stub, and is adjacent with 209.165.202.139 (R3).

However, R4 is not learning about network 209.165.201.0/27 from R3. What could be the cause of this issue?

```
R4#show ip route
...
Gateway of last resort is not set

 209.165.202.0/27 is subnetted, 1 subnets
C 209.165.202.128 is directly connected, FastEthernet0/0

R4#show ip eigrp neighbor detail
IP-EIGRP neighbors for process 100
H Address Interface Hold Uptime SRTT RTO Q Seq
 (sec) (ms)
0 209.165.202.139 Fa0/0 13 00:00:29 1 200 0 99
Version 12.4/1.2, Retrans: 0, Retries: 0
Receive-Only Peer Advertising (No) Routes

R3#show ip route eigrp
* 209.165.201.0/27 is subnetted, 1 subnets
D* 209.165.201.0 [90/20514560] via 209.165.200.242, 00:01:36, Serial0/0/0
```

- A. R4 should learn this route from 209.165.200.242, and not from R3.
- B. R3 is configured as a receive-only EIGRP stub.
- C. R3 and R4 may be using different EIGRP process numbers.
- D. R3 and R4 are asymmetrically adjacent neighbors.

**Answer: B**

**Explanation:**

Configuring EIGRP Stub Routing

To configure a remote or spoke router for EIGRP stub routing, use the following commands beginning in router configuration mode:

|               | Command                                                                         | Purpose                                                             |
|---------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <b>Step 1</b> | router(config)# router eigrp as-number                                          | Configures a remote or distribution router to run an EIGRP process. |
| <b>Step 2</b> | router(config-router)# network network-number                                   | Specifies the network address of the EIGRP distribution router.     |
| <b>Step 3</b> | router(config-router)# eigrp stub [receive-only   connected   static   summary] | Configures a remote router as an EIGRP stub router.                 |

**QUESTION 618**

Refer to the exhibit. What problem does the debug ip ospf event output from R3 indicate?

```
*Nov 2 00:47:06.246: OSPF: Rcv hello from 209.165.202.140 area 209.165.202.128 from FastEthernet0/0 209.165.202.140
*Nov 2 00:47:06.246: OSPF: Hello from 209.165.202.140 with mismatched Stub/Transit area option bit
```

- A. 209.165.202.140 and R3 are not both configured as OSPF stubs.
- B. 209.165.202.140 and R3 are not configured in the same OSPF area.
- C. 209.165.202.140 is configured as a no-summary stub.
- D. Transit area OSPF hello packets are not processed by design.

**Answer: A**

**Explanation:**

As you can see that the hello packets are mismatched. This means that 209.165.202.140 and R3 are not configured as OSPF stubs.

#### QUESTION 619

Refer to the exhibit. R4 is a remote office router that is running EIGRP; the decision has been made to change EIGRP to use static EIGRP adjacencies. However, once the configuration change was applied, the adjacency between R4 and 209.165.202.139 (HQ) seems to disappear. What could be the cause of this issue?

```
R4#show ip eigrp neighbors
IP-EIGRP neighbors for process 100
H Address Interface Hold Uptime SRTT RTO Q Seq
 (sec) (ms)
0 209.165.202.139 Fa0/0 14 00:00:22 6 200 0 23

R4(config)#router eigrp 100
R4(config-router)#neighbor 209.165.202.139 fa0/0

*Nov 11 02:01:05.354: %DUAL-5-NBRCHANGE: IP-EIGRP(0) 100: Neighbor 209.165.202.139
R4#show ip eigrp neighbors
IP-EIGRP neighbors for process 100
```

- A. Static EIGRP neighbor configuration is symmetric; it causes the interface to stop processing inbound multicast packets and stop sending multicast packets.
- B. Static EIGRP neighbors are not displayed with the show ip eigrp neighbors command.
- C. A distance (internal 90 or external 170) must also be configured for the static neighbor.
- D. The neighbor 209.165.202.139 should be changed to run under EIGRP autonomous system 0.

**Answer:** A

**Explanation:**

As you can see that static EIGRP neighbor configuration is symmetric.

This causes the interface to halt processing inbound packets and stop sending multicast packets.

#### QUESTION 620

Which EIGRP packet types are sent as unicast packets?

- A. hello, update, query
- B. query, SIA query, reply
- C. SIA query, reply, ACK
- D. query, SIA query, SIA reply

**Answer:** C

#### QUESTION 621

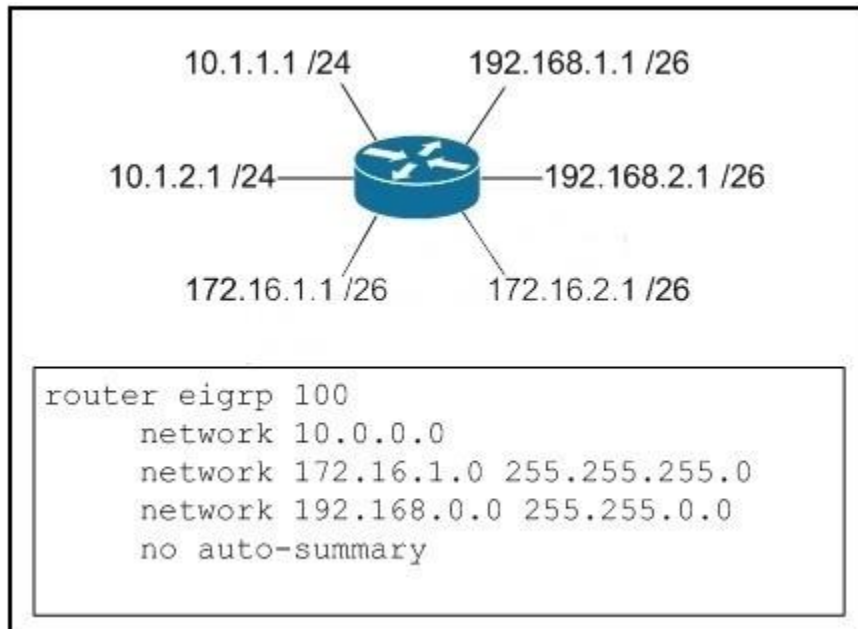
What is a reason for an EIGRP router to send an SIA reply to a peer?

- A. to respond to an SIA query with the alternative path requested
- B. to respond to a query reporting that the prefix has gone stuck-in-active
- C. to respond to an SIA query that the router is still waiting on replies from its peers
- D. to respond to a reply reporting that the prefix has gone stuck-in-active

**Answer:** C

**QUESTION 622**

Refer to the exhibit. Which prefixes will appear in the EIGRP topology table?



- A. 10.0.0.0/8, 172.16.1.0/24, 192.168.0.0/16
- B. 10.1.1.0/24, 10.1.2.0/24, 172.16.1.0/26, 192.168.1.0/26, 192.168.2.0/26
- C. 10.1.1.0/24, 10.1.2.0/24, 172.16.1.0/26, 172.16.2.0/26, 192.168.1.0/26, 192.168.2.0/26
- D. 10.1.1.1/24, 10.1.2.1/24, 172.16.1.1/26, 172, 192.168.1.1/26, 192.168.2.1/26

**Answer: B**

**QUESTION 623**

What is the most common use for route tagging in EIGRP?

- A. to determine the route source for management purposes
- B. to change the metric of a prefix
- C. to filter routes in order to prevent routing loops
- D. to modify path selection for certain classes of traffic

**Answer: C**

**QUESTION 624**

Refer to the exhibit. Which statement is true?

```
RP1#show ipv6 mroute
Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
 C - Connected, L - Local, I - Received Source Specific Host Report,
 P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
 J - Join SPT
Timers: Uptime/Expires
Interface state: Interface, State

(*, FF7E:200:2A02:B11:FC02:1:11FF:11EE), 00:00:35/never, RP
2A02:B11:FC02:1::1, flags: SCLJ
Incoming interface: Null
RPF nbr: ::
Immediate Outgoing interface list:
Ethernet2/0, Forward, 00:00:35/never
```

- A. The output shows an IPv6 multicast address with link-local scope.
- B. The output shows an IPv6 multicast address that is used for unique local sources only.
- C. The output shows an IPv6 multicast address that can be used for BIDIR-PIM only.
- D. The output shows an IPv6 multicast address with embedded RP.

**Answer: D**

#### QUESTION 625

Which two statements about the max-age time in IS-IS are true? (Choose two.)

- A. The IS-IS max-age time is 20 minutes by default.
- B. The IS-IS max-age time is 60 minutes by default.
- C. The IS-IS max-age time increments from zero to max-age.
- D. The IS-IS max-age time decrements from max-age to zero.

**Answer: AD**

#### QUESTION 626

Which two statements about the default behavior of IS-IS are true? (Choose two.)

- A. The default IS-IS router type is L1/L2.
- B. The default IS-IS metric type is wide.
- C. The default IS-IS interface circuit type is L1/L2.
- D. By default, two IS-IS routers must use the same hello interval and hold timer in order to become neighbors.

**Answer: AC**

#### QUESTION 627

Which two statements about BPDU guard are true? (Choose two.)

- A. The global configuration command spanning-tree portfast bpduguard default shuts down interfaces that are in the PortFast-operational state when a BPDU is received on that port.
- B. The interface configuration command spanning-tree portfast bpduguard enable shuts down only interfaces with PortFast enabled when a BPDU is received.

- C. BPDU guard can be used to prevent an access port from participating in the spanning tree in the service provider environment.
- D. BPDU guard can be used to protect the root port.
- E. BPDU guard can be used to prevent an invalid BPDU from propagating throughout the network.

**Answer:** AC

**QUESTION 628**

Which two 802.1D port states are expected in a stable Layer 2 network? (Choose two.)

- A. forwarding
- B. learning
- C. listening
- D. blocking
- E. disabled

**Answer:** AD

**QUESTION 629**

Where must the spanning-tree timers be configured if they are not using the default timers?

- A. They must be on the root bridge.
- B. They must be on any non-root bridge.
- C. Changing the default timers is not allowed.
- D. Timers must be modified manually on each switch.

**Answer:** A

**QUESTION 630**

Which three fields are part of a TCN BPDU? (Choose three.)

- A. protocol ID
- B. version
- C. type
- D. max-age
- E. flags
- F. message age

**Answer:** ABC

**QUESTION 631**

With AutoInstall, which mechanism allows for automatic addressing of the serial interface using HDLC?

- A. ARP
- B. BOOTP
- C. DHCP
- D. SLARP



**Answer: D**

**QUESTION 632**

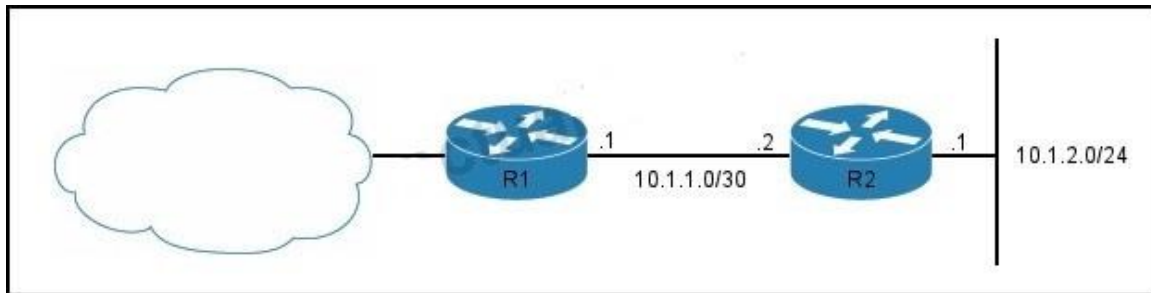
Which two protocols does the Management Plane Protection feature support? (Choose two.)

- A. ARP
- B. HTTPS
- C. TFTP
- D. OSPF

**Answer: BC**

**QUESTION 633**

Refer to the exhibit. Which configuration reduces CPU utilization on R2 while still advertising the connected routes of R2 to R1?



- A. Configure eigrp stub connected on R2.
- B. Configure eigrp stub receive-only on R1.
- C. Configure eigrp stub static on R2.
- D. Configure eigrp stub summary on R1.

**Answer: A**

**QUESTION 634**

Which authentication types does OSPF support?

- A. null and clear text
- B. MD5 only
- C. MD5 and clear text
- D. null, clear text, and MD5
- E. clear text only

**Answer: D**

**QUESTION 635**

Which ICMP message type is used to assist path MTU discovery?

- A. destination unreachable

- B. redirect message
- C. source quench
- D. time exceeded

**Answer: A**

**QUESTION 636**

A configuration includes the line `ip route 10.0.0.0 255.0.0.0 172.16.10.10 permanent`. Which option is a benefit of configuring this static route as permanent?

- A. It allows the route to be redistributed into the network even if the outgoing interface is down.
- B. It allows the route to be saved in the running configuration of the device.
- C. It places a hidden tag on the route that can be matched on other devices.
- D. It allows the route to have a tracking status even if no tracking object is configured.

**Answer: A**

**QUESTION 637**

Refer to the exhibit. Which two statements about the R1 configuration are true? (Choose two.)

```
R1#sh run | i mpls

mpls ldp session protection
mpls ldp discovery targeted-hello accept
no mpls ldp advertise-labels
mpls ldp advertise-labels for LOOPBACK-ONLY
no mpls ip propagate-ttl forwarded
mpls label protocol ldp
```

- A. The IP TTL value is copied to the MPLS field during label imposition.
- B. The structure of the MPLS network is hidden in a traceroute.
- C. The LDP session interval and hold times are configured for directly connected neighbors.
- D. R1 protects the session for 86400 seconds.
- E. All locally assigned labels are discarded.

**Answer: BD**

**QUESTION 638**

Which two statements about IPsec VTI implementation are true? (Choose two.)

- A. The IKE SA can be bound to the VTI and the crypto map.
- B. The transform set can be configured only in tunnel mode.
- C. SVTIs support only a single IPsec SA.
- D. SVTIs support IPv4 packets that carry IPv6 packets.

**Answer: BC**

**QUESTION 639**

Which command sets the maximum segment size for a TCP packet initiated from a router?

- A. ip mtu
- B. ip tcp adjust-mss
- C. ip tcp mss
- D. ip tcp window-size

**Answer: C**

**QUESTION 640**

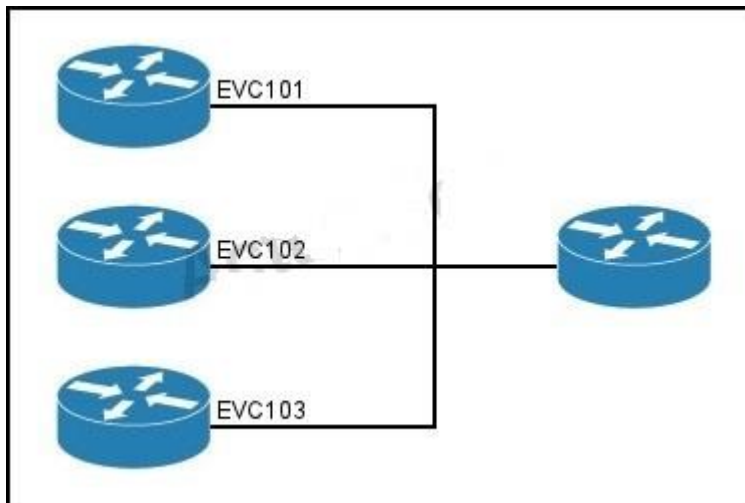
Which circumstance can cause TCP starvation and UDP dominance to occur?

- A. Too few queues are available.
- B. UDP is comprised of smaller packets than TCP.
- C. Retransmitted TCP packets are on the network.
- D. UDP and TCP data are assigned to the same service-provider class.

**Answer: D**

**QUESTION 641**

Refer to the exhibit. Which statement about the topology is true?



- A. It provides a transparent LAN service.
- B. It provides only point-to-multipoint connections between UNIs.
- C. It uses port-based connections at the hub.
- D. It provides point-to-point connections between UNIs.

**Answer: D**

**QUESTION 642**

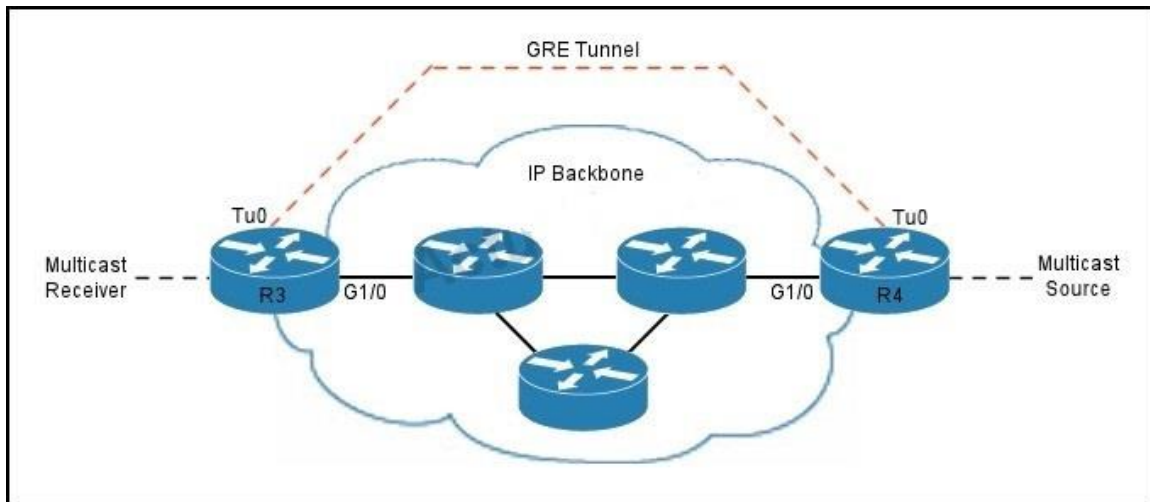
Which two statements about reverse ARP are true? (Choose two.)

- A. Its servers require static mappings.
- B. It works with AutoInstall to configure new devices.
- C. It provides IP addresses for subnet masks.
- D. It provides IP addresses for default gateways.
- E. It requires less maintenance than DHCP.

**Answer:** AB

**QUESTION 643**

Refer to the exhibit. This network is configured with PIM, and the RPF check has failed toward the multicast source. Which two configuration changes must you make to router R3 to enable the RPF check to pass? (Choose two.)



- A. Configure a static multicast route to the multicast source through the tunnel interface.
- B. Configure a static multicast route to the multicast source LAN through the tunnel interface.
- C. Configure a static multicast route to the multicast source LAN through the Ethernet interface.
- D. Remove the command `ip pim bidir-enable` from the R3 configuration.

**Answer:** AB

**QUESTION 644**

In which two situations is an EIGRP hello packet sent as unicast? (Choose two.)

- A. during neighbor discovery
- B. when link costs change
- C. when the neighbor command is used
- D. when an ACK is sent

**Answer:** CD

**QUESTION 645**

Which three options are results of the command `no mpls ip propagate-ttl`? (Choose three.)

- A. It prevents the TTL from being copied from the IP header to the MPLS header.
- B. It prevents the MPLS hops from being visible to a CE router when you perform a traceroute.
- C. A fixed TTL value of 255 is used for the first label of the IP packet.
- D. It prevents the TTL from being copied from the MPLS header back into the IP header.
- E. MPLS hops remain visible on a CE router when you perform a traceroute.
- F. A fixed TTL value of 1 is used for the first label of the IP packet.

**Answer:** ABC

**QUESTION 646**

Which statement about how a CE router is used in an MPLS VPN is true?

- A. It is located on the customer premises, where it peers and exchanges routes with the provider edge router.
- B. It is located on the provider premises, where it peers and exchanges routes with the customer edge router.
- C. It is located on the customer premises, but it is fully controlled by the provider, which provides a full routing table to the customer.
- D. It is located on the provider premises, and it routes only MPLS label traffic.

**Answer:** A

**QUESTION 647**

Which three options are three benefits of an MPLS VPN? (Choose three.)

- A. It allows IP address space overlap by maintaining customer routes in a private routing table.
- B. It offers additional security by preventing intrusions directly into the customer routing table.
- C. It offers a transparent virtual network in which all customer sites appear on one LAN.
- D. It offers additional security by allowing only dynamic routing protocols between CE and PE routers.
- E. It allows IP address space overlap by maintaining customer routes in the global routing table with unique BGP communities.
- F. Providers can send only a default route for Internet access into the customer VPN.

**Answer:** ABC

**QUESTION 648**

Into which two pieces of information does the LISP protocol split the device identity? (Choose two.)

- A. Routing Locator
- B. Endpoint Identifier
- C. Resource Location
- D. Enterprise Identifier
- E. LISP ID
- F. Device ID

**Answer:** AB

**QUESTION 649**

Which two protocols are used to establish IPv6 connectivity over an MPLS network? (Choose two.)

- A. 6PE
- B. 6VPE
- C. RSVP
- D. ISATAP
- E. LDP
- F. IPv6IP

**Answer:** AB

**QUESTION 650**

Which three types of traffic are protected when you implement IPsec within an IPv6-in-IPv4 tunnel? (Choose three.)

- A. IPv6 link-local traffic
- B. IPv6 multicast traffic
- C. IPv6 unicast traffic
- D. IPv4 tunnel control traffic
- E. IPv4 broadcast traffic
- F. IPv6 broadcast traffic

**Answer:** ABC

**QUESTION 651**

Which three features does GETVPN support to improve deployment and scalability? (Choose three.)

- A. configuration of multiple key servers to work cooperatively
- B. allowing traffic to be discarded until a group member registers successfully
- C. local exceptions in the traffic classification ACL
- D. GDOI protocol configuration between group members and the key server
- E. redundant IPsec tunnels between group members and the key server
- F. redundant multicast replication streaming through the use of a bypass tunnel

**Answer:** ABC

**QUESTION 652**

Refer to the exhibit. Which two configuration changes enable you to log in to the router? (Choose two.)



```
aaa new-model
aaa authentication login default group tacacs+ local
aaa authentication enable default group tacacs+ enable
aaa authorization console
aaa authorization exec default group tacacs+ if-authenticated
aaa authorization commands 1 default group tacacs+ local if-authenticated
aaa authorization commands 4 default group tacacs+ if-authenticated
aaa authorization commands 15 default group tacacs+ local if-authenticated
aaa accounting exec default start-stop group tacacs+
aaa accounting commands 1 default start-stop group tacacs+
aaa accounting commands 15 default start-stop group tacacs+
aaa session-id common

line con 0
 exec-timeout 120 0
 logging synchronous
 transport input ssh telnet
 password cisco

line vty 0 4
 exec-timeout 120 0
 logging synchronous
 transport input ssh telnet
 password cisco
```

- A. Configure a user name and password on the device.
- B. Modify the default login authentication group to use the terminal line password.
- C. Remove the terminal line password on the console line.
- D. Modify the terminal lines to include transport input none.
- E. Configure the terminal lines to use the local user database.

**Answer:** AB

### QUESTION 653

Refer to the exhibit. Which log levels are enabled for the console?

```
Pl#show logging
Syslog logging: enabled (0 messages dropped, 1 messages rate-limited, 0 flushes, 0 overruns, xml disabled, filtering disabled)

No Active Message Discriminator.

No Inactive Message Discriminator.

Console logging: level informational, 47 messages logged, xml disabled, filtering disabled
Monitor logging: level debugging, 0 messages logged, xml disabled, filtering disabled
Buffer logging: level debugging, 47 messages logged, xml disabled, filtering disabled
Exception Logging: size (8192 bytes)
Count and timestamp logging messages: disabled
Persistent logging: disabled

No active filter modules.

Trap logging: level informational, 51 message lines logged

Log Buffer (4096 bytes):
```

- A. informational only
- B. informational and debugging

- C. informational, debugging, notifications, warnings, errors, critical, alerts, and emergencies
- D. informational, notifications, warnings, errors, critical, alerts, and emergencies

**Answer: D**

**QUESTION 654**

External EIGRP route exchange on routers R1 and R2 was failing because the routers had duplicate router IDs. You changed the `eigrp router-id` command on R1, but the problem persists. Which additional action must you take to enable the routers to exchange routes?

- A. Change the corresponding loopback address.
- B. Change the router ID on R2.
- C. Reset the EIGRP neighbor relationship.
- D. Clear the EIGRP process.

**Answer: D**

**QUESTION 655**

Which two BGP path attributes are visible in Wireshark? (Choose two.)

- A. weight
- B. AS path
- C. local preference
- D. route maps

**Answer: BC**

**QUESTION 656**

Refer to the exhibit. If a Layer 3 switch running OSPF in a VRF-lite configuration reports this error, which action can you take to correct the problem?

```
%CFIB-7-CFIB_EXCEPTION: FIB TCAM exception, Some entries will be software switched
```

- A. Set `mls cef maximum-routes` in the global configuration.
- B. Add the `vrf-lite` capability to the OSPF configuration.
- C. Upgrade the Layer 3 switch to a model that can support more routes.
- D. Configure the control plane with a larger memory allocation to support the Cisco Express Forwarding Information Base.

**Answer: A**

**QUESTION 657**

Which statement describes the effect of the configuration line `redistribute maximum-prefix 1500 90 withdraw`?

- A. After the 1500th route is redistributed, a warning is posted in the log file and 90 more routes are redistributed before further routes are discarded.

- B. After the 1350th route is redistributed, a warning is posted in the log file until the 1500th route is redistributed, and then further routes are discarded.
- C. After the 1500th route is redistributed, further routes are discarded only if the CPU is above 90%.
- D. The routing protocol receives 1500 routes. After the routing process has redistributed 90% of the routes, the process supernets routes and injects a NULL route to prevent black-hole routing.

**Answer: B**

**QUESTION 658**

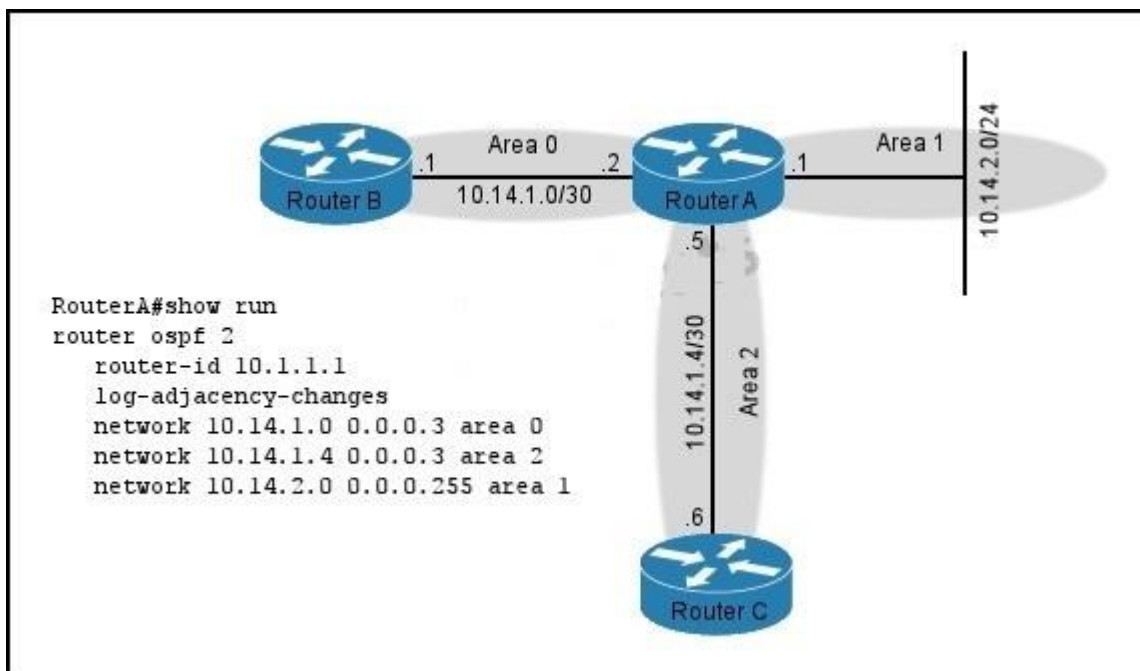
Which option is a correct match criteria for policy-based routing?

- A. length
- B. interface type
- C. interface
- D. cost

**Answer: A**

**QUESTION 659**

Refer to the exhibit. How many LSDBs will router A have?



- A. 0
- B. 1
- C. 2
- D. 3

**Answer: D**

**QUESTION 660**

Which EIGRP configuration results in subsecond failover outside of the basic routing protocol convergence?

- A. bfd all-interfaces
- B. timers active-time disabled
- C. timers active-time 1
- D. timers nsf route-hold 20

**Answer: A**

**QUESTION 661**

Which two options are requirements for Control-Plane Policing? (Choose two.)

- A. Cisco Express Forwarding must be enabled globally.
- B. Cisco Discovery Protocol must be disabled in the control plane.
- C. A crypto policy must be installed.
- D. A loopback address must be configured for device access.
- E. A class map must be configured to identify traffic.

**Answer: AE**

**QUESTION 662**

In the DiffServ model, which class represents the highest priority with the lowest drop probability?

- A. AF11
- B. AF13
- C. AF41
- D. AF43

**Answer: C**

**QUESTION 663**

Which two statements about GLBP are true? (Choose two.)

- A. Packets are forwarded by multiple routers that share one virtual IP address.
- B. The active router forwards packets received on one virtual IP and MAC address.
- C. The standby router forwards packets when the active router fails.
- D. Hosts on the network are configured with multiple gateways for load balancing.
- E. Routers in a GLBP group can share multiple virtual MAC addresses.

**Answer: AE**

**QUESTION 664**

Which trunking configuration between two Cisco switches can cause a security risk?

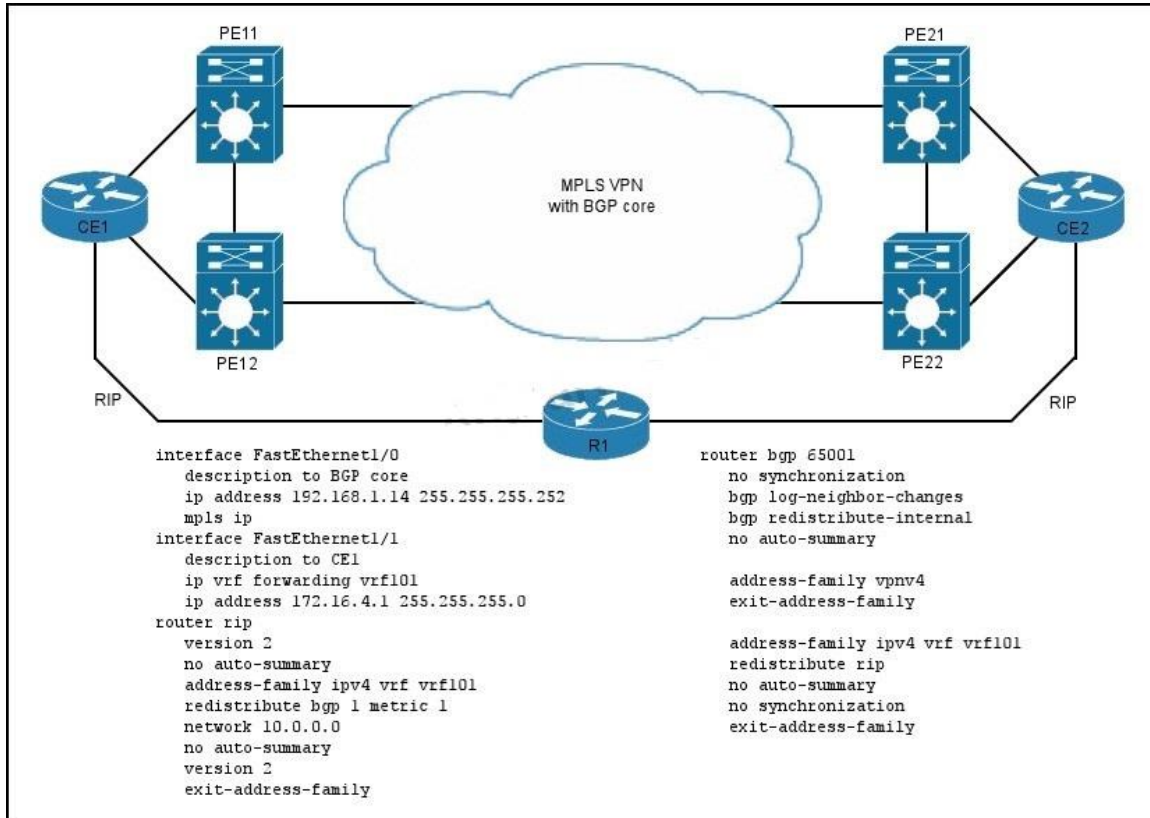
- A. configuring different native VLANs on the switches
- B. configuring different trunk modes on the switches
- C. configuring mismatched VLANs on the trunk

- D. disabling DTP on the trunk ports
- E. configuring incorrect channel-groups on the switches

**Answer: A**

**QUESTION 665**

Refer to the exhibit. Traffic from CE1 to CE2 is traveling through the core instead of through R1. All the PE routers have a similar configuration, and BGP peering and extended-community meshing are configured correctly.



Which configuration change routes the traffic through R1?

A.

```

router rip
address-family ipv4 vrf vrf101
redistribute bgp 1 metric 1 route-map bgp-to-rip
router bgp 1
address-family ipv4 vrf vrf101
redistribute rip route-map rip-to-bgp
route-map bgp-to-rip permit 10
set tag 24
route-map rip-to-bgp deny 10
match tag 24
route-map rip-to-bgp permit 20

```

B.

```
router rip
 address-family ipv4 vrf vrf101
 redistribute bgp 1 metric 1 route-map rip-to-bgp
router bgp 1
 address-family ipv4 vrf vrf101
 redistribute rip route-map bgp-to-rip
route-map bgp-to-rip permit 10
 set tag 24
route-map rip-to-bgp deny 10
 match tag 24
route-map rip-to-bgp permit 20
```

C.

```
router rip
 address-family ipv4 vrf vrf101
 redistribute bgp 1 metric 1 route-map bgp-to-rip
router bgp 1
 address-family ipv4 vrf vrf101
 redistribute rip route-map rip-to-bgp
route-map bgp-to-rip permit 10
 set tag 24
route-map rip-to-bgp deny 10
 match tag 24
```

D.

```
router rip
 address-family ipv4 vrf vrf101
 Redistribute bgp 1 metric 1 route-map bgp-to-rip
router bgp 1
 address-family ipv4 vrf vrf101
 redistribute rip route-map rip-to-bgp
route-map bgp-to-rip permit 10
 set tag 24
route-map rip-to-bgp permit 10
 match tag 24
route-map rip-to-bgp deny 20
```

**Answer: A**

#### QUESTION 666

A floating static route appears in the routing table of an interface even when the interface is unusable.

Which action can you take to correct the problem?

- A. Remove the permanent option from the static route.
- B. Correct the administrative distance.
- C. Configure the floating static route to point to another route in the routing table.
- D. Correct the DHCP-provided route on the DHCP server.

**Answer: A**



**QUESTION 667**

Which two statements about redistribution are true? (Choose two.)

- A. EIGRP requires the route to have a default metric defined.
- B. EIGRP and OSPF use their router IDs to prevent loops.
- C. When OSPF is redistributed into IS-IS, the default metric must be configured under the IS-IS process.
- D. When traffic is redistributed into OSPF, the subnets command is needed to redistribute classful subnets.
- E. The default seed metric for OSPF redistributed routes is 30.

**Answer:** AB

**QUESTION 668**

Which LSA type is associated with the default route in a totally stubby area?

- A. interarea-prefix LSA for ABRs (Type 3)
- B. autonomous system external LSA (Type 5)
- C. router LSA (Type 1)
- D. interarea-router LSAs for ASBRs (Type 4)

**Answer:** A

**QUESTION 669**

Which statement about NAT64 is true?

- A. NAT64 provides address family translation and translates IPv4 to IPv6 and IPv6 to IPv4.
- B. NAT64 provides address family translation and can translate only IPv6 to IPv4.
- C. NAT64 should be considered as a permanent solution.
- D. NAT64 requires the use of DNS64.

**Answer:** A

**QUESTION 670**

Which two statements about BGP loop prevention are true? (Choose two.)

- A. Advertisements from PE routers with per-neighbor SOO configured include a Site of Origin value that is equal to the configured value of the BGP peering.
- B. If the configured Site of Origin value of a BGP peering is equal to the Site of Origin value on a route it receives, route advertisement is blocked to prevent a route loop.
- C. AS-override aids BGP loop prevention, but alternate loop prevention mechanisms are also necessary.
- D. Advertisements from the neighbors a BGP peering include a Site of Origin value that is separate from the configured value of the BGP peering.
- E. If the configured Site of Origin value of a BGP peering is greater than the Site of Origin value on a route it receives, route advertisement is blocked to prevent a route loop.
- F. If the configured Site of Origin value of a BGP peering is equal to the Site of Origin value on a route it receives, route advertisement is permitted.

**Answer:** AB

**QUESTION 671**

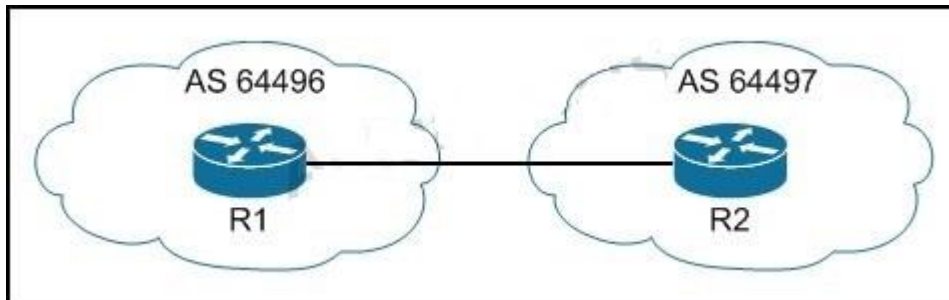
Which option is the default point of insertion for the BGP cost community?

- A. before best path calculation
- B. after best path calculation
- C. after the IGP metric comparison
- D. after the router ID comparison

**Answer: C**

**QUESTION 672**

Refer to the exhibit. Which BGP feature allows R1 to send R2 a list of prefixes that R2 is prevented from advertising to R1?



- A. route refresh
- B. Prefix-Based Outbound Route Filtering
- C. distribute lists
- D. prefix lists

**Answer: B**

**QUESTION 673**

Refer to the exhibit. Which type of BGP peer is 192.168.1.1?

```
R1#show ip bgp neighbor 192.168.1.1
BGP neighbor is 192.168.1.1, remote AS 64496, external link
 BGP version 4, remote router ID 192.168.1.1
 Neighbor under common administration
 BGP state = Established, up for 00:00:10
 Last read 00:00:10, last write 00:00:10, hold time is 180, keep alive interval is 60 seconds
 Neighbor capabilities:
 Route refresh: advertised and received(old & new)
 Address family IPv4 Unicast: advertised and received
 Message statistics:
 InQ depth is 0
 OutQ depth is 0

 Sent Rcvd
 Opens: 1 1
 Notifications: 0 0
 Updates: 0 0
 Keepalives: 1 1
 Route Refresh: 0 0
 Total: 2 2
 Default minimum time between advertisement runs is 30 seconds
```

- A. route reflector client
- B. iBGP
- C. confederation
- D. VPNv4

**Answer: C**

#### QUESTION 674

Which option describes what the default RT filter indicates when you implement the BGP RT constrained route distribution feature?

- A. A peer receives only a default route for each VRF.
- B. A peer receives all routes, regardless of the RT value.
- C. A peer receives routes only for RTs that are used on that router.
- D. A peer receives no routes, regardless of the RT value.

**Answer: B**

#### QUESTION 675

Refer to the exhibit. Which BGP feature is being used?

```
RT: del 10.2.2.2/32 via 192.168.1.2, ospf metric [110/2]
RT: delete subnet route to 10.2.2.2/32
RT: NET-RED 10.2.2.2/32
RT: Try lookup less specific 10.2.2.2/32, default 1
RT: Failed found subnet on less specific
RT: return NULL
%BGP-5-ADJCHANGE: neighbor 10.2.2.2 Down Route to peer lost
```

- A. fast session deactivation
- B. graceful restart

- C. PIC
- D. graceful shutdown

**Answer: A**

**QUESTION 676**

Refer to the exhibit. Which two issues can cause the interface VLAN10 to be down/down?  
(Choose two.)

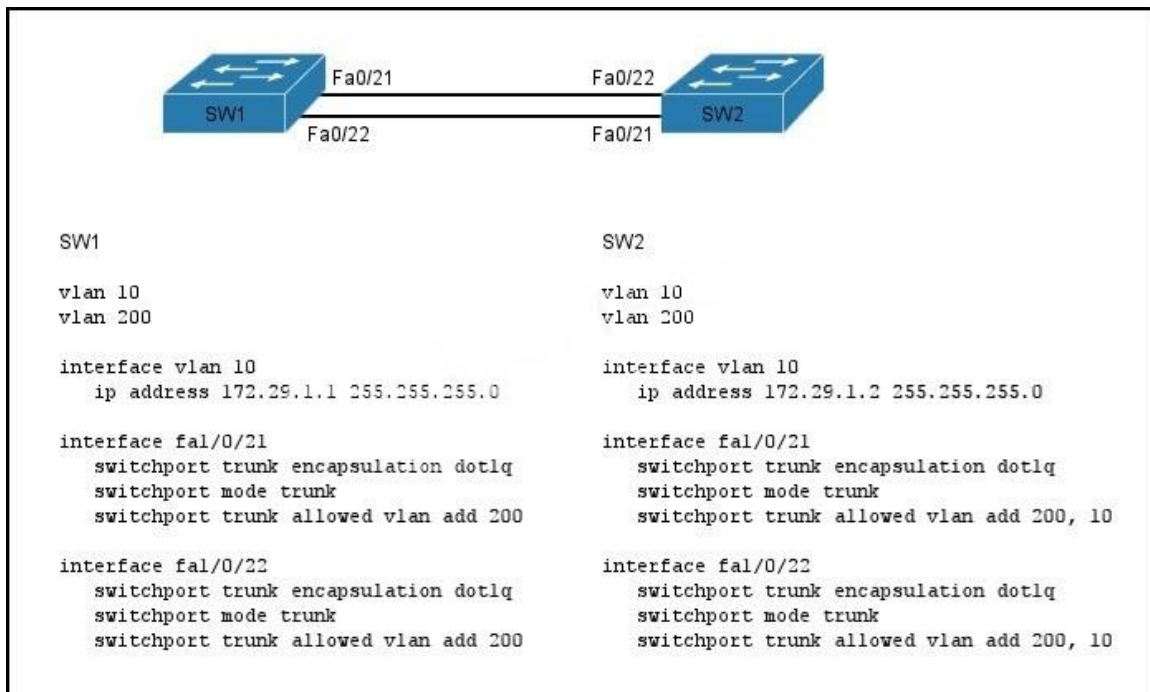
```
SW1# show interface | include Vlan10 is
interface Vlan10 is down, line protocol is down
```

- A. The VLAN is inactive or has been removed from the VLAN database.
- B. STP is in a forwarding state on the port.
- C. A Layer 2 access port is configured with VLAN10, but is in a down/down state.
- D. The autostate exclude feature was used on interface VLAN10.

**Answer: AC**

**QUESTION 677**

Refer to the exhibit. Which two statements about this configuration are true? (Choose two.)



- A. Pings from SW2 to SW1 fail because SW1 is pruning VLAN 10.
- B. VLANs 10 and 200 are added to the SW2 allowed list on interface fa0/22.
- C. Pings from SW2 to SW1 are successful.
- D. Only VLAN 200 is added to the SW1 allowed list on interface fa0/22.

**Answer:** BC

**QUESTION 678**

Refer to the exhibit. Which two conditions can cause this error message to be displayed on the console? (Choose two.)

```
%PM-4-ERR_DISABLE: channel-misconfig error detected on Po1, putting fa0/12 in err-disable state
```

- A. The EtherChannel is configured as desirable on both ends.
- B. The port-channel on the adjacent device is misconfigured.
- C. There is a speed and duplex mismatch on interface fa0/12.
- D. The EtherChannel is configured as auto on one of the interfaces.

**Answer:** BC

**QUESTION 679**

Which three statements about RIPvng are true? (Choose three.)

- A. It supports route tags.
- B. It sends updates on FF02::9.
- C. Its RTE last byte is 0XFF.
- D. It supports authentication.
- E. It sends updates on UDP port 520.
- F. It can be used on networks of greater than 15 hops.

**Answer:** ABC

**QUESTION 680**

Which option is the result if two adjacent routers are configured for OSPF with different process IDs?

- A. The routers are unable to establish an adjacency.
- B. The routers establish an adjacency, but route exchange fails.
- C. The routers establish an adjacency and exchange routes, but the routes are unreachable.
- D. The routers establish an adjacency and exchange routes, and the routes are reachable.

**Answer:** D

**QUESTION 681**

Which two commands enable OSPF graceful shutdown? (Choose two.)

- A. nsf cisco
- B. ip ospf shutdown
- C. shutdown
- D. nsf ietf helper disable

**Answer:** BC

**QUESTION 682**

Which object tracking function tracks the combined states of multiple objects?

- A. application
- B. interface
- C. stub-object
- D. list

**Answer:** D

**QUESTION 683**

Which two options are EEM policies? (Choose two.)

- A. applets
- B. event detectors
- C. scripts
- D. syslogs
- E. actions

**Answer:** AC

**QUESTION 684**

Which two metrics are measured with active probes when PfR voice traffic optimization is in use? (Choose two.)

- A. MOS
- B. cost
- C. jitter
- D. bandwidth

**Answer:** AC

**QUESTION 685**

Which statement about NAT64 is true?

- A. It uses one-to-one mapping between IPv6 addresses and IPv4 addresses.
- B. It requires static address mapping between IPv6 addresses and IPv4 addresses.
- C. It can be used to translate an IPv6 network to another IPv6 network.
- D. It can be configured for stateless and stateful translation.

**Answer:** D

**QUESTION 686**

Which three statements about the differences between Cisco IOS and IOS-XE functionality are true? (Choose three.)



- A. Only IOS-XE Software can host applications outside of the IOS context.
- B. Only the IOS-XE Services Plane has multiple cores.
- C. Only the IOS-XE Data Plane has multiple cores.
- D. Only the IOS-XE Control Plane has multiple cores.
- E. Only IOS-XE module management integrates with packet processing.
- F. Only IOS-XE configuration and control is integrated with the kernel.

**Answer:** ABC

**QUESTION 687**

While troubleshooting an issue for a remote user, you must capture the communication between the user's computer and a server at your location. The traffic passes through a Cisco IOS-XE capable switch. Which statement about obtaining the capture is true?

- A. The Embedded Packet Capture application in the IOS-XE Software can capture the packets, but there is a performance impact.
- B. The Embedded Packet Capture application in the IOS-XE Software can capture the packets without impacting performance.
- C. The Mini Protocol Analyzer embedded in the IOS-XE Software can capture the packets without impacting performance.
- D. The Mini Protocol Analyzer embedded in the IOS-XE Software can be used to capture the packets, but there is a performance impact.
- E. Wireshark can capture packets through a SPAN port, but there is a performance impact.

**Answer:** A

**QUESTION 688**

Which two actions can you take to recover an interface in a errdisable state? (Choose two.)

- A. Enable UDLD on the switch.
- B. Enable errdisable recovery on the switch.
- C. Execute the shutdown command on the interface, followed by the no shutdown command.
- D. Remove the related commands from the configuration and reenter them.
- E. Enable loop guard on the switch.

**Answer:** BC

**QUESTION 689**

Which three protocols support SSM? (Choose three.)

- A. IGMPv2
- B. IGMPv3
- C. IGMP v3lite
- D. URD
- E. CGMP
- F. IGMPv1

**Answer:** BCD

**QUESTION 690**

Which additional feature must be enabled on a switch to allow PIM snooping to function correctly?

- A. IGMP snooping
- B. port security
- C. storm control
- D. dynamic ARP inspection

**Answer:** A

**QUESTION 691**

Which protocol uses a proprietary 2-byte Type field for multiple protocol support?

- A. HDLC
- B. PPP
- C. CHAP
- D. PAP

**Answer:** A

**QUESTION 692**

Refer to the exhibit. Which command can you enter to resolve this error message on a peer router?

```
CHAP: Unable to validate Response. Username <username> not found.
```

- A. username <username> password <password>
- B. ppp chap <hostname>
- C. aaa authorization exec if-authenticated
- D. aaa authorization network if-authenticated

**Answer:** A

**QUESTION 693**

Refer to the exhibit. R2 is configured as the R1 neighbor in area 51, but R2 fails to receive the configured summary route. Which action can you take to correct the problem?

```
R1
interface Loopback0
 ip address 10.1.1.1 255.255.255.0
 ip ospf 1 area 0
 ip ospf network point-to-point
interface GigabitEthernet0/0
 ip address 192.168.252.1 255.255.255.252
 ip ospf 1 area 0
interface GigabitEthernet1/0
 ip address 172.16.252.1 255.255.255.252
 ip ospf 1 area 51
router ospf 1
 router-id 10.1.1.1
 summary-address 192.168.0.0 255.255.0.0
```

- A. Replace the summary-address command with the area-range command.
- B. Configure a summary address under R1 interface GigabitEthernet0/0.
- C. Configure a summary address under R1 interface GigabitEthernet1/0.
- D. Configure the no discard-route command in the OSPF process of R1.
- E. Configure ip ospf network broadcast under the Loopback0 interface of R1.

**Answer:** A

#### QUESTION 694

Which two descriptions of the keying mechanisms that are used to distribute the session keys used in routing authentication are true? (Choose two.)

- A. Peer keying creates a unique one-to-one relationship with another peer.
- B. Group keying creates a single keying message to multiple peers.
- C. Peer keying creates a single keying message to multiple peers.
- D. Group keying creates a unique one-to-one relationship with another peer.
- E. Group keying creates a full mesh of keying sessions to all devices.
- F. Peer keying creates a full mesh of keying sessions to all devices.

**Answer:** AB

#### QUESTION 695

How many address families can a single OSPFv3 instance support?

- A. 1
- B. 2
- C. 5
- D. 10

**Answer:** A

#### QUESTION 696

Which two conditions must be met by default to implement the BGP multipath feature? (Choose

two.)

- A. The next-hop routers must be the same.
- B. Route reflectors must be enabled.
- C. All attributes must have the same values.
- D. MPLS must be enabled.
- E. The next-hop routers must be different.

**Answer:** CE

**QUESTION 697**

Which two statements about LDP advertising when Explicit Null is in effect are true? (Choose two.)

- A. Penultimate hop popping is disabled.
- B. Penultimate hop popping is enabled.
- C. It is the default behavior for LDP.
- D. It is used for the advertisement of static routes.
- E. It is used for the advertisement of connected routes.

**Answer:** AE

**QUESTION 698**

You are configuring a DMVPN hub to perform CBWFQ on a per-spoke basis. Which information is used to identify the spoke?

- A. the NHRP network ID
- B. the spoke tunnel source IP
- C. the spoke tunnel interface IP address
- D. the NHRP group

**Answer:** D

**QUESTION 699**

Which option is true about output policing for the control plane?

- A. It improves router performance by limiting traffic sent to the control plane.
- B. It improves router performance by limiting traffic sent from the control plane.
- C. It improves router performance by limiting traffic sent to and from the control plane.
- D. It controls traffic originated from the router.

**Answer:** D

**QUESTION 700**

Which two types of traffic are blocked when the storm control threshold for multicast traffic is reached on a port? (Choose two.)

- A. BPDU
- B. OSPF

- C. CDP
- D. IS-IS
- E. LLDP

**Answer:** BD

**QUESTION 701**

Which two options are contained in the MSG part of a syslog message? (Choose two.)

- A. TAG field
- B. CONTENT field
- C. three-digit priority value
- D. IP address of the sending device
- E. TLS port number

**Answer:** AB

**QUESTION 702**

Which two values are needed to configure NTP authentication? (Choose two.)

- A. the encryption method
- B. the key number
- C. the burst mode
- D. the key string
- E. the Diffie-Hellman group

**Answer:** BD

**QUESTION 703**

You are configuring a DHCPv6 client for a DHCPv6 server with the prefix delegation feature. Which option is a result of the interface configuration when you enter the command `ipv6 address autoconfig default`?

- A. a static IPv6 default route pointing to the upstream DHCP server
- B. a static IPv6 default route pointing to the upstream DHCP relay
- C. a static IPv6 default route pointing to the upstream router
- D. a temporary stateless address, formed from the EUI-64 bit address and the prefix from the route advertisement of the upstream router

**Answer:** A

**QUESTION 704**

Refer to the exhibit. You are bringing a new MPLS router online and have configured only what is shown to bring LDP up. Assume that the peer has been configured in a similar manner. You verify the LDP peer state and see that there are no neighbors. What will the output of `show mpls ldp discovery` show?

```
!
interface Loopback25
 ip address 25.25.25.1 255.255.255.255
!
interface Ethernet0/0
 ip address 192.168.12.1 255.255.255.252
 mpls ip
!
```

- A. Interfaces:  
Ethernet0/0 (ldp): xmit
- B. Interfaces:  
Ethernet0/0 (ldp): xmit/recv  
LDP Id: 25.25.25.2:0; IP addr: 192.168.12.2
- C. Interfaces:  
Ethernet0/0 (ldp): xmit/recv  
LDP Id: 192.168.12.2:0; no route
- D. Interfaces:  
Ethernet0/0 (ldp): xmit/recv  
LDP Id: 25.25.25.2:0; no route

**Answer:** D

#### QUESTION 705

Which three features are common to OSPF and IS-IS? (Choose three.)

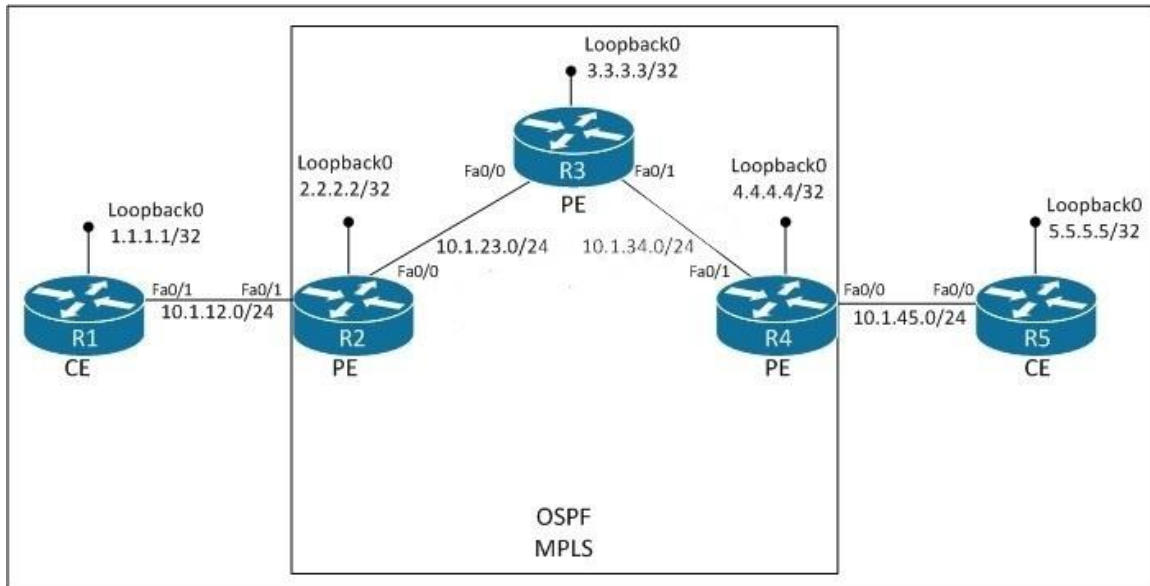
- A. They both maintain a link-state database from which a Dijkstra-based SPF algorithm computes a shortest path tree.
- B. They both use DR and BDR in the broadcast network.
- C. They both use hello packets to form and maintain adjacencies.
- D. They both use NSSA and stub type areas to scale the network design.
- E. They both have areas to form a two-level hierarchical topology.

**Answer:** ACE

#### QUESTION 706

Refer to the exhibit. Which two commands are required on R3 in order for MPLS to function? (Choose two.)





- A. mpls ip
- B. ip cef
- C. mpls label protocol tdp
- D. mpls ip propagate-ttl

**Answer: AB**

#### QUESTION 707

Which two statements about the assert process in LAN-based PIM are true? (Choose two.)

- A. If the metrics are the same, the router with the lowest advertised routing protocol metric for that route is elected.
- B. If the metrics are the same, the router with the highest IP address on the LAN is elected.
- C. If the metrics are the same, the router with the highest advertised routing protocol metric for that route is elected.
- D. If the metrics are the same, the router with the lowest IP address on the LAN is elected.

**Answer: AB**

#### QUESTION 708

Which two options are the two underlying protocols on which a DMVPN relies? (Choose two.)

- A. IPsec
- B. NHRP
- C. GDOI
- D. ISAKMP
- E. SSL
- F. NLRI

**Answer: AB**

**QUESTION 709**

Which three parameters must match to establish OSPF neighbor adjacency? (Choose three.)

- A. the process ID
- B. the hello interval
- C. the subnet mask
- D. authentication
- E. the router ID
- F. the OSPF interface priority

**Answer:** BCD

**QUESTION 710**

Which IP SLA operation type uses IP to measure the round-trip time between a router and a device?

- A. HTTP
- B. ICMP Echo
- C. ICMP Path Jitter
- D. UDP Jitter for VoIP

**Answer:** B

**QUESTION 711**

What are two reasons to use the ip ospf database filter all out command? (Choose two.)

- A. to maintain a centralized OSPF database on a single master device
- B. to avoid flooding LSAs on low-speed links
- C. to ensure a consistent OSPF database across the network
- D. to selectively filter OSPF routes without disrupting the SPF algorithm
- E. to filter only type 7 LSAs from an OSPF area
- F. to enable OSPF to send triggered updates

**Answer:** AB

**QUESTION 712**

On a broadcast interface, which two OSPF states support BFD sessions? (Choose two.)

- A. DR
- B. BDR
- C. DROTHER
- D. 2WAY
- E. FULL
- F. ACTIVE

**Answer:** AB

**QUESTION 713**

Which two statements about BGP best-path selection are true? (Choose two.)

- A. The route with the highest local preference is preferred.
- B. The weight attribute is advertised to peers.
- C. The route with the lowest MED is preferred.
- D. A route that originates from iBGP peers is preferred.
- E. A route that originates from a router with a higher BGP router ID is preferred.
- F. The lowest weight advertised is preferred.

**Answer:** AC

#### QUESTION 714

The no ip unreachable command is configured on interfaces to protect the control plane of a router.

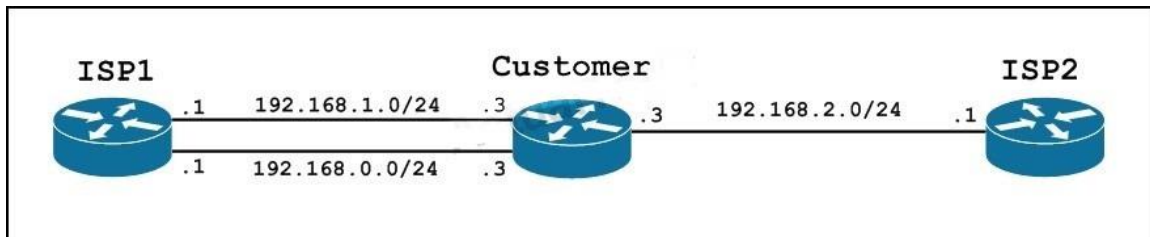
Which mechanism is impacted by using this command?

- A. ICMP redirects
- B. path MTU discovery
- C. source routing
- D. ICMP router discovery protocol

**Answer:** B

#### QUESTION 715

Refer to the exhibit. The customer wants to use IP SLA to create a failover to ISP2 when both Ethernet connections to ISP1 are down. The customer also requires that both connections to ISP1 are utilized during normal operations.



Which IP route configuration accomplishes these requirements for the customer?

- A. ip route 0.0.0.0 0.0.0.0 192.168.0.1 track 1  
ip route 0.0.0.0 0.0.0.0 192.168.1.1 track 2  
ip route 0.0.0.0 0.0.0.0 192.168.2.1 track 3
- B. ip route 0.0.0.0 0.0.0.0 192.168.0.1 track 1  
ip route 0.0.0.0 0.0.0.0 192.168.1.1 track 2  
ip route 0.0.0.0 0.0.0.0 192.168.2.1 track 4 100
- C. ip route 0.0.0.0 0.0.0.0 192.168.0.1 track 1  
ip route 0.0.0.0 0.0.0.0 192.168.1.1 track 2  
ip route 0.0.0.0 0.0.0.0 192.168.2.1 track 3 100
- D. ip route 0.0.0.0 0.0.0.0 192.168.0.1 track 1 1  
ip route 0.0.0.0 0.0.0.0 192.168.1.1 track 2 2  
ip route 0.0.0.0 0.0.0.0 192.168.2.1 track 3 3

**Answer: C**

**QUESTION 716**

Which statement describes what it means if a router has an OSPF priority set to 0?

- A. A router with the OSPF priority set to 0 is one that can participate in the election of a DR. It has the highest priority.
- B. A router with the OSPF priority set to 0 is one that cannot participate in the election of a DR, but it can become a BDR
- C. A router with the OSPF priority set to 0 is one that cannot participate in the election of a DR. It can become neither a DR nor a BDR.
- D. A router with the OSPF priority set to 0 is one that cannot participate in the election of a BDR, but it can become a DR

**Answer: C**

**QUESTION 717**

What is the maximum number of classes that MQC can support in a single policy map?

- A. 512
- B. 256
- C. 128
- D. 64

**Answer: B**

**QUESTION 718**

Drag and Drop Question

Drag each IPv6 extension header on the left to its corresponding description on the right.

|             |                                                            |
|-------------|------------------------------------------------------------|
| AH          | Specifies the path for a datagram.                         |
| Destination | Carries encrypted data.                                    |
| ESP         | Specifies the parameters used to split datagrams.          |
| Fragment    | Carries authentication information.                        |
| Hop-by-Hop  | Specifies options to be examined only at the final device. |
| Routing     | Specifies options to be examined by all devices.           |

**Answer:**

|             |             |
|-------------|-------------|
| AH          | Routing     |
| Destination | ESP         |
| ESP         | Fragment    |
| Fragment    | AH          |
| Hop-by-Hop  | Destination |
| Routing     | Hop-by-Hop  |

#### QUESTION 719

Drag and Drop Question

Drag each traceroute text character on the left to its meaning on the right.

|   |                              |
|---|------------------------------|
| * | The port is unreachable.     |
| ? | The probe timed out.         |
| A | The protocol is unreachable. |
| P | Unknown packet type.         |
| Q | The destination is too busy. |
| U | Prohibited.                  |

**Answer:**

|   |   |
|---|---|
| * | U |
| ? | * |
| A | P |
| P | ? |
| Q | Q |
| U | A |

#### QUESTION 720

Drag and Drop Question

Drag and drop each IPv6 neighbor discovery message type on the left to the corresponding description on the right.

|                        |                                                                                              |
|------------------------|----------------------------------------------------------------------------------------------|
| neighbor redirect      | The message a node uses to share its link-layer address                                      |
| router solicitation    | The message a node uses to notify hosts on the link of a better first-hop for a destination  |
| router advertisement   | The message a node uses to discover the link-local addresses of other nodes on the link      |
| neighbor advertisement | The message a node uses to share information about its status and its local prefixes         |
| neighbor solicitation  | The message a host sends when it starts up, requesting local routers to transmit information |

**Answer:**



|                        |                        |
|------------------------|------------------------|
| neighbor redirect      | neighbor advertisement |
| router solicitation    | neighbor redirect      |
| router advertisement   | neighbor solicitation  |
| neighbor advertisement | router advertisement   |
| neighbor solicitation  | router solicitation    |

### QUESTION 721

Drag and Drop Question

Drag and drop each BGP feature on the left to the corresponding function it performs on the right.

|                                |                                                                |
|--------------------------------|----------------------------------------------------------------|
| peer session templates         | Applies configuration commands to a group of neighbors         |
| peer policy templates          | Separates updates from configurations, allowing groups to      |
| peer groups                    | Supports the configuration of a group of neighbors by defining |
| BGP Dynamic Update Peer-Groups | Applies configuration commands to a group of neighbors         |
| BGP dynamic neighbors          | Creates a group of neighbors in the same address family that   |

**Answer:**

|                                |                                |
|--------------------------------|--------------------------------|
| peer session templates         | peer session templates         |
| peer policy templates          | BGP Dynamic Update Peer-Groups |
| peer groups                    | BGP dynamic neighbors          |
| BGP Dynamic Update Peer-Groups | peer policy templates          |
| BGP dynamic neighbors          | peer groups                    |

**QUESTION 722**

Drag and Drop Question

Drag and drop each DHCP term on the left to the corresponding definition on the right.

|                   |                                                                  |
|-------------------|------------------------------------------------------------------|
| client identifier | The mapping of a MAC address and an IP address.                  |
| address binding   | An address reserved for use by devices with static IP addresses. |
| excluded address  | The value used to forward DHCP requests to remote servers.       |
| DHCP pool         | The hexadecimal value assigned to a host.                        |
| ip helper-address | A group of dynamic addresses.                                    |

**Answer:**

|                   |                   |
|-------------------|-------------------|
| client identifier | address binding   |
| address binding   | excluded address  |
| excluded address  | ip helper-address |
| DHCP pool         | client identifier |
| ip helper-address | DHCP pool         |

**QUESTION 723**

Drag and Drop Question

Drag and drop each step of the Unicast RPF process on the left into the correct order on the right.

|                                                                |   |
|----------------------------------------------------------------|---|
| Unicast RPF performs a CEF table lookup for packet forwarding. | 1 |
| Unicast RPF performs a reverse lookup of the return path in    | 2 |
| The packet is received on the interface.                       | 3 |
| The output ACL is checked on the forwarding interface.         | 4 |
| The packet is forwarded.                                       | 5 |
| The packet is checked against the inbound ACL.                 | 6 |

**Answer:**

|                                                                |                                                                |
|----------------------------------------------------------------|----------------------------------------------------------------|
| Unicast RPF performs a CEF table lookup for packet forwarding. | The packet is received on the interface.                       |
| Unicast RPF performs a reverse lookup of the return path in    | The packet is checked against the inbound ACL.                 |
| The packet is received on the interface.                       | Unicast RPF performs a reverse lookup of the return path in    |
| The output ACL is checked on the forwarding interface.         | Unicast RPF performs a CEF table lookup for packet forwarding. |
| The packet is forwarded.                                       | The output ACL is checked on the forwarding interface.         |
| The packet is checked against the inbound ACL.                 | The packet is forwarded.                                       |

**QUESTION 724**

Drag and Drop Question

Drag and drop the SNMP element on the left to the corresponding definition on the right.

|          |                                                          |
|----------|----------------------------------------------------------|
| Get      | an inquiry for a MIB-leaf variable                       |
| GetNext  | a reply to a request                                     |
| GetBulk  | a router request for a single variable's value           |
| Response | a single inquiry for multiple, consecutive MIB variables |

**Answer:**

|          |          |
|----------|----------|
| Get      | GetNext  |
| GetNext  | Response |
| GetBulk  | Get      |
| Response | GetBulk  |

#### QUESTION 725

Drag and Drop Question

Drag and drop each PHB on the left to the functionality it performs on the right.

|                      |                                                                            |
|----------------------|----------------------------------------------------------------------------|
| Default              | Provides low-latency, low-loss, low-jitter, and assured bandwidth service. |
| Expedited Forwarding | Provides backward compatibility with IP-precedence.                        |
| Assured Forwarding   | Assigns best effort service to the packet.                                 |
| Class Selector       | Defines classes for traffic allocation                                     |

**Answer:**

|                      |                      |
|----------------------|----------------------|
| Default              | Expedited Forwarding |
| Expedited Forwarding | Class Selector       |
| Assured Forwarding   | Default              |
| Class Selector       | Assured Forwarding   |

#### QUESTION 726

Drag and Drop Question

Drag and drop each policy command on the left to the function it performs on the right.

|                |                                                                  |
|----------------|------------------------------------------------------------------|
| bandwidth      | Enables CBWFQ.                                                   |
| random-detect  | Configures the queuing of excess traffic for later transmission. |
| service-policy | Configures the dropping of excess traffic when a maximum rate    |
| police         | Enables WFQ.                                                     |
| shape          | Enables a traffic policy on an interface.                        |
| fair-queue     | Enabled WRED or DWRED.                                           |

**Answer:**



|                |                |
|----------------|----------------|
| bandwidth      | bandwidth      |
| random-detect  | shape          |
| service-policy | police         |
| police         | fair-queue     |
| shape          | service-policy |
| fair-queue     | random-detect  |

#### QUESTION 727

Which topology allows the split-horizon rule to be safely disabled when using EIGRP?

- A. full mesh
- B. partial mesh
- C. hub and spoke
- D. ring

**Answer: C**

#### QUESTION 728

Which two statements about VPLS are true? (Choose two.)

- A. Split horizon is used on PE devices to prevent loops.
- B. Spanning tree is extended from CE to CE.
- C. IP is used to switch Ethernet frames between sites.
- D. PE routers dynamically associate to peers.
- E. VPLS extends a Layer 2 broadcast domain.

**Answer: AE**

#### QUESTION 729

Which two statements about redistribution are true? (Choose two.)

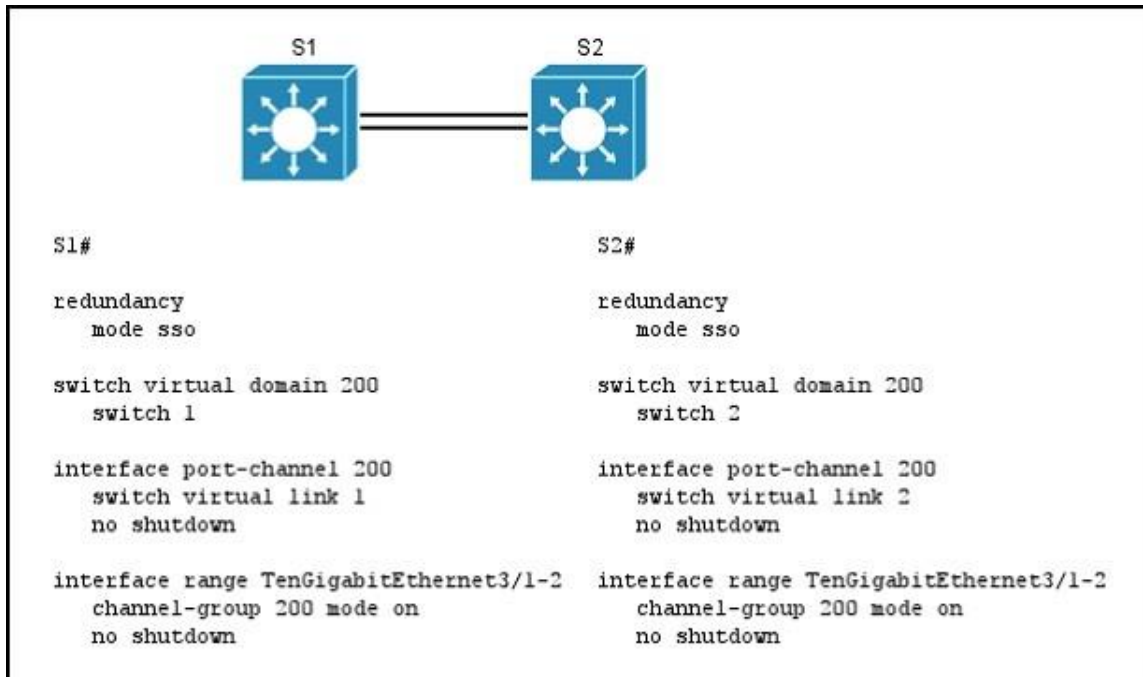
- A. When BGP traffic is redistributed into OSPF, the metric is set to 1 unless the metric is defined.
- B. When EIGRP routes on a CE are redistributed through a PE into BGP, the Cost Community POI is set automatically.
- C. When OSPF traffic is redistributed into BGP, internal and external routes are redistributed.
- D. When BGP traffic is redistributed into OSPF, eBGP and iBGP routes are advertised.
- E. iBGP routes automatically redistribute into the IGP if the routes are in the routing table.
- F. When EIGRP traffic is redistributed into BGP, a default metric is required.



**Answer:** AB

**QUESTION 730**

Refer to the exhibit. The two standalone chassis are unable to convert into a VSS. What can you do to correct the problem?



- A. Set a different port channel number on each chassis.
- B. Set a different virtual domain ID on each chassis.
- C. Set the redundancy mode to rpr on both chassis.
- D. Add two ports to the port channel group.

**Answer:** A

**QUESTION 731**

Drag and Drop Question

Drag and drop each MLPPP command on the left to the function it performs on the right.

|                                |                                                                                  |
|--------------------------------|----------------------------------------------------------------------------------|
| ppp iphc max-period            | Configures settings for CoS negotiations with a peer.                            |
| ppp lcp predictive             | Sets the LCP state to reduce negotiation times.                                  |
| ppp microcode                  | Sets a trigger condition for LCP renegotiation on an LNS.                        |
| ppp mru match                  | Limits the number of compressed packets that the device sends before the header. |
| ppp multilink multiclass local | Sets the reorder buffer size.                                                    |
| ppp multilink slippage         | Configures PPP framing on asynchronous interfaces.                               |

**Answer:**

|                                |                                |
|--------------------------------|--------------------------------|
| ppp iphc max-period            | ppp multilink multiclass local |
| ppp lcp predictive             | ppp lcp predictive             |
| ppp microcode                  | ppp mru match                  |
| ppp mru match                  | ppp iphc max-period            |
| ppp multilink multiclass local | ppp multilink slippage         |
| ppp multilink slippage         | ppp microcode                  |

#### QUESTION 732

Which three address family types does EIGRP support? (Choose three.)

- A. IPv4 unicast
- B. IPv4 multicast
- C. IPv6 unicast
- D. IPv6 multicast
- E. IPv4 anycast
- F. IPv6 anycast

**Answer:** ABC

#### QUESTION 733

Which two values must be identical to allow IS-IS devices to become neighbors? (Choose two.)

- A. interface MTU
- B. authentication key
- C. IP MTU
- D. CLNS address
- E. NSEL
- F. area ID

**Answer:** AB

**QUESTION 734**

Which Layer 2 tunneling technique eliminates the need for pseudowires?

- A. OTV
- B. L2TPv3
- C. ATOM
- D. VPLS

**Answer:** A

**QUESTION 735**

Which two application protocols require application layer gateway support when using NAT on a Cisco router? (Choose two.)

- A. SIP
- B. HTTP
- C. FTP
- D. SMTP
- E. POP3

**Answer:** AC

**QUESTION 736**

Which three options must be configured when deploying OSPFv3 for authentication? (Choose three.)

- A. security parameter index
- B. crypto map
- C. authentication method
- D. IPsec peer
- E. encryption algorithm
- F. encryption key
- G. IPsec transform-set
- H. authentication key

**Answer:** ACH

**QUESTION 737**

Which two statements about IOS and IOS XE are true? (Choose two.)

- A. IOS XE can upgrade and restart applications independently of IOS.
- B. Only IOS uses the FFM to provide separation between the control plane and the data plane.
- C. IOS XE provides improved functionality and an enhanced UI.
- D. Only IOS runs as a single daemon within the Linux OS.
- E. IOS XE provides additional system functions that run as multiple separate processes in the OS.

**Answer:** AE

**QUESTION 738**

An NSSA area has two ABRs connected to Area 0. Which statement is true?

- A. Both ABRs translate Type-7 LSAs to Type-5 LSAs.
- B. The ABR with the highest router ID translates Type-7 LSAs to Type-5 LSAs.
- C. Both ABRs forward Type-5 LSAs from the NSSA area to backbone area.
- D. No LSA translation is needed.

**Answer:** B

**QUESTION 739**

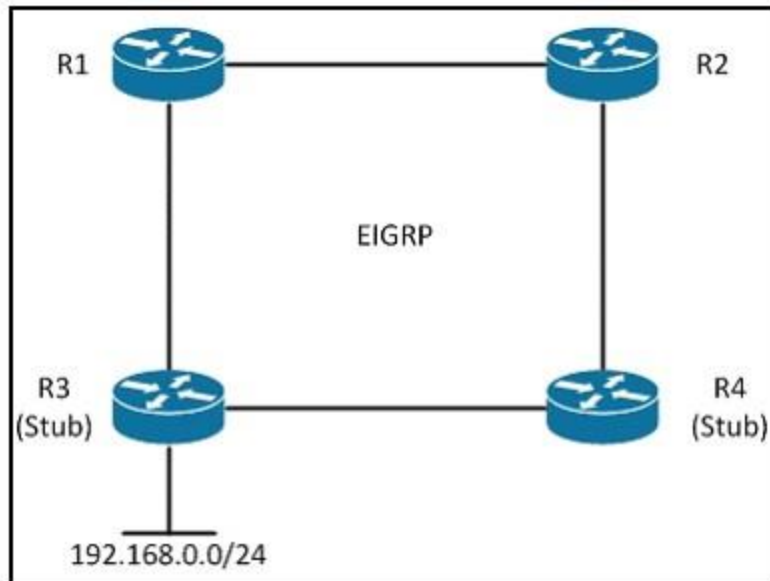
Which two options are requirements to implement 6VPE? (Choose two.)

- A. MPLS between PEs
- B. 6-in-4 tunnels between PEs
- C. MP-BGP VPNv6 exchange
- D. MP-BGP IPv6+label exchange
- E. Any Transport over MPLS
- F. IPv4/IPv6 dual-stack in core

**Answer:** AC

**QUESTION 740**

Refer to the exhibit. All routers are running EIGRP and the network has converged. R3 and R4 are configured as EIGRP Stub. if the link between R1 and R3 goes down, which statement is true?



- A. R1 sends traffic destined to 192.168.0.100 via R2.
- B. R2 does not have a route to 192.168.0.0/24 in the routing table.
- C. The prefix 192.168.0.0/24 becomes stuck-in-active on R4.
- D. R3 does not advertise 192.168.0.0/24 to R4 anymore.

**Answer: B**

#### QUESTION 741

Which three options are characteristics of a Type 10 LSA? (Choose three.)

- A. It is an area-local, opaque LSA.
- B. Data is flooded to all routers in the LSA scope.
- C. It is used for traffic-engineering extensions to OSPF.
- D. It is a link-local, opaque LSA.
- E. Data is flooded only to the routers in the LSA scope that understand the data.
- F. It is used for traffic-engineering extensions to LDP.

**Answer: ABC**

#### QUESTION 742

Drag and Drop Question

Drag each SNMP term on the left to the matching definition on the right.

|              |                                                                      |
|--------------|----------------------------------------------------------------------|
| Agent        | An operation that retrieves object variables.                        |
| Get          | An operation that retrieves unsolicited information from an agent.   |
| Manager      | A system that monitors and controls the activities of network hosts. |
| MIB          | An operation that modifies object variables.                         |
| Notification | A software component that maintains and reports data.                |
| Set          | A virtual storage area for managed objects.                          |

**Answer:**

|              |              |
|--------------|--------------|
| Agent        | Get          |
| Get          | Notification |
| Manager      | Manager      |
| MIB          | Set          |
| Notification | Agent        |
| Set          | MIB          |

#### QUESTION 743

Refer to the exhibit. Which two statements about this capture are true? (Choose two.)

```

R1#show monitor capture status
Load for five secs: 0%/0%; one minute: 0%; five minutes: 0%

capture state : ON
 [running for 00:03:26.860]
capture mode : Circular [wrap count = 0]
Number of packets
 captured : 201
 dropped : 0
 received : 591
Capture will stop after 00:01:33

```



- A. It is set to run for five minutes.
- B. It continues to capture data after the buffer is full.
- C. It is set to run for a period of 00:03:26.
- D. It captures data only until the buffer is full.
- E. It is set to use the default buffer type.

**Answer:** AB

#### QUESTION 744

Drag and Drop Question

Drag each AF class on the left to its matching DSCP binary value on the right.

|      |        |
|------|--------|
| AF12 | 011100 |
| AF22 | 010100 |
| AF33 | 100100 |
| AF41 | 001100 |
| AF42 | 100010 |

**Answer:**

|      |      |
|------|------|
| AF12 | AF33 |
| AF22 | AF22 |
| AF33 | AF42 |
| AF41 | AF12 |
| AF42 | AF41 |

#### QUESTION 745

Which three types of address-family configurations are supported in EIGRP named mode? (Choose three.)

- A. address-family ipv4 unicast
- B. address-family vpnv4

- C. address-family ipv6 unicast
- D. address-family ipv6 multicast
- E. address-family vpnv6
- F. address-family ipv4 multicast

**Answer:** ACF

#### QUESTION 746

Refer to the exhibit. Which three statements about the device with this configuration are true? (Choose three.)

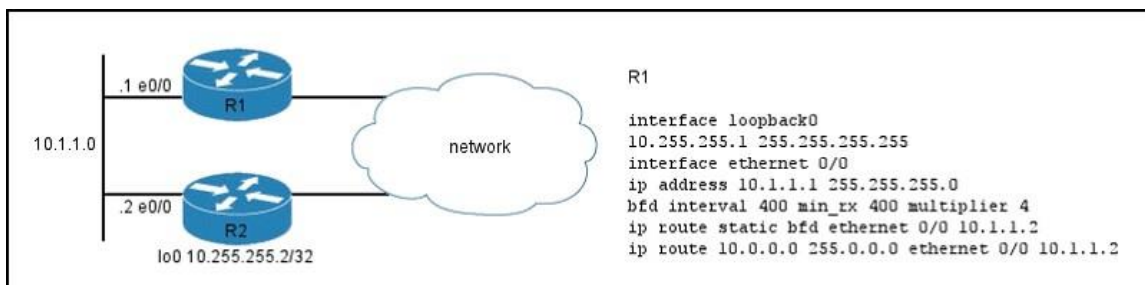
```
%TCP-6-BADAUTH: Invalid MD5 digest from 172.16.129.4(179) to 172.16.129.7(43766) tableid - 0
BGP: tbl IPv4 Unicast:base Service reset requests
BGP: tbl IPv4 MDI:base Service reset requests
BGP: tbl VPNv4 Unicast:base Service reset requests
BGP: tbl IPv4 Multicast:base Service reset requests
```

- A. Multiple AFIs are configured on the device.
- B. The authentication on 172.16.129.7 is configured incorrectly.
- C. The device is configured to support MPLS VPNs.
- D. This device is configured with a single AFI.
- E. The authentication on 172.16.129.4 is configured incorrectly.
- F. The device is configured to support L2VPNs.

**Answer:** ABC

#### QUESTION 747

Refer to the exhibit. Which configuration must you apply to router R2 to enable BFD?



A.

```
interface Ethernet 0/0
ip address 10.1.1.2 255.255.255.0
bfd interval 400 min_rx 400 multiplier 4
ip route static bfd Ethernet 0/0 10.1.1.1
ip route 10.255.255.2 255.255.255.255 ethernet 0/0 10.1.1.1
```

B.

```
interface Ethernet 0/0
ip address 10.1.1.2 255.255.255.0
bfd interval 400 min_rx 400 multiplier 4
ip route static bfd Ethernet 0/0 10.1.1.2
ip route 10.255.255.2 255.255.255.255 ethernet 0/0 10.1.1.1
```

C.

```
interface Ethernet 0/0
ip address 10.1.1.2 255.255.255.0
bfd interval 400 min_rx 400 multiplier 4
ip route static bfd Ethernet 0/0 10.255.255.1
ip route 10.0.0.0 255.0.0.0 ethernet 0/0 10.1.1.1
```

D.

```
interface Ethernet 0/0
ip address 10.1.1.2 255.255.255.0
bfd interval 400 min_rx 400 multiplier 4
ip route static bfd Ethernet 0/0 10.1.1.1
ip route 10.255.255.1 255.255.255.255 ethernet 0/0 10.1.1.2
```

**Answer:** A

#### QUESTION 748

Which two options about PIM-DM are true? (Choose two.)

- A. PIM-DM initially floods multicast traffic throughout the network.
- B. In a PIM-DM network, routers that have no upstream neighbors prune back unwanted traffic.
- C. PIM-DM supports only shared trees.
- D. PIM-DM uses a pull model to deliver multicast traffic.
- E. PIM-DM cannot be used to build a shared distribution tree.

**Answer:** AE

#### QUESTION 749

Drag and Drop Question

Drag each GETVPN component on the left to its function on the right.

|                                         |                                   |
|-----------------------------------------|-----------------------------------|
| Group Domain of Interpretation Protocol | Authenticates group members.      |
| Group Member                            | Serves as the crypto device.      |
| Key Encryption Key                      | Secures data during transmission. |
| Key Server                              | Manages the group keys.           |
| Traffic Encryption Key                  | Secures rekey messages.           |

**Answer:**

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Group Domain of Interpretation Protocol | Key Server                              |
| Group Member                            | Group Member                            |
| Key Encryption Key                      | Traffic Encryption Key                  |
| Key Server                              | Group Domain of Interpretation Protocol |
| Traffic Encryption Key                  | Key Encryption Key                      |

#### QUESTION 750

Which two statements about EIGRP load balancing are true? (Choose two.)

- A. EIGRP supports 6 unequal-cost paths.
- B. A path can be used for load balancing only if it is a feasible successor.
- C. EIGRP supports unequal-cost paths by default.
- D. Any path in the EIGRP topology table can be used for unequal-cost load balancing.
- E. Cisco Express Forwarding is required to load-balance across interfaces.

**Answer:** AB

#### QUESTION 751

What are three required commands when you enable source-specific multicast for addresses in the range 233.0.0.0/8? (Choose three.)

- A. ip multicast-routing
- B. ip igmp version 3
- C. ip pim ssm-range 233.0.0.0/8
- D. ip igmp version 2

- E. ip pim ssm-range default
- F. set routing-options multicast ssm-groups 233.0.0.0/8

**Answer:** ABC

**QUESTION 752**

Refer to the exhibit. Which statement about this GETVPN configuration is true?

```
crypto isakmp keepalive 15 periodic
crypto gdoi group testgroup
server local
address ipv4 10.1.1.1
redundancy
local priority 200
peer address ipv4 10.1.2.2
```

- A. Co-operative key servers are configured.
- B. Redundant peers are configured.
- C. The key server uses multicast mode to propagate rekey messages.
- D. PSK authentication is configured.

**Answer:** A

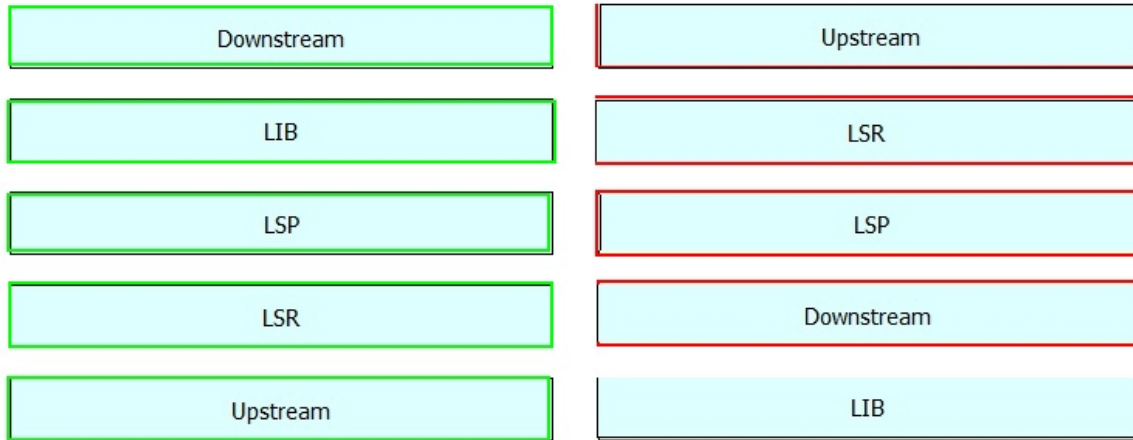
**QUESTION 753**

Drag and Drop Question

Drag each MPLS term on the left to the matching statement on the right.

|            |                                                             |
|------------|-------------------------------------------------------------|
| Downstream | The transit direction of prefix updates.                    |
| LIB        | The component that replaces the top label in a label stack. |
| LSP        | A route determined by IGP routing protocols.                |
| LSR        | Data traveling to a destination.                            |
| Upstream   | A table with labels received from peers.                    |

**Answer:**



**QUESTION 754**

Which option is the origin code when a route is redistributed into BGP?

- A. IGP
- B. EGP
- C. external
- D. incomplete
- E. unknown

**Answer: D**

**QUESTION 755**

Which packet does a router receive if it receives an OSPF type 4 packet?

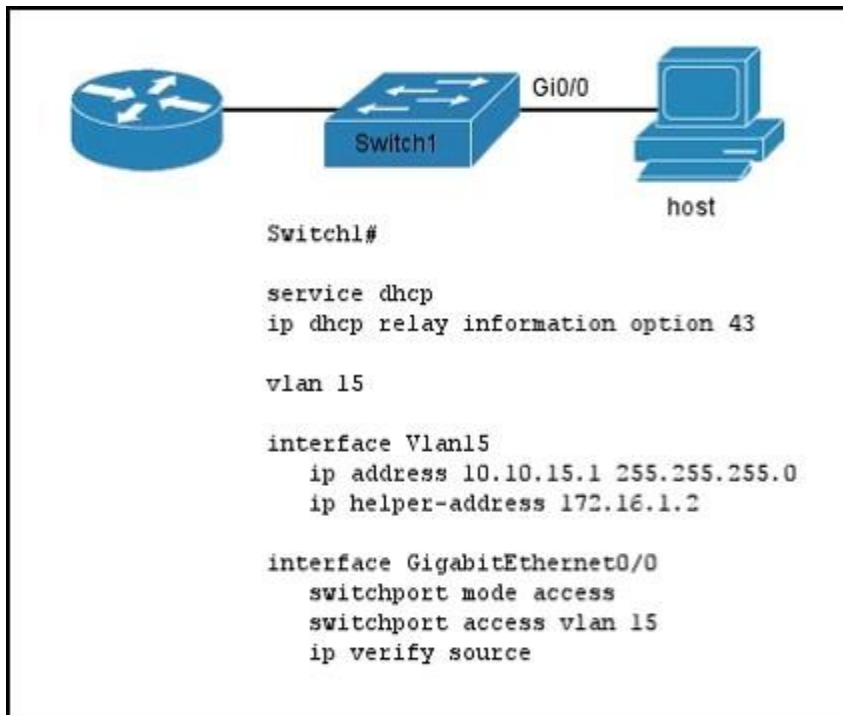
- A. hello packet
- B. database descriptor packet
- C. link state update packet
- D. link state request packet
- E. link state acknowledge packet

**Answer: C**

**QUESTION 756**

Refer to the exhibit. Why is the host unable to obtain an IP address?





- A. IP source guard is configured on the switch port.
- B. The DHCP server pool addresses are configured incorrectly.
- C. DHCP requests are being blocked.
- D. DHCP option 150 is disabled.

**Answer:** A

#### QUESTION 757

Which three statements about DMVPN are true? (Choose three.)

- A. It facilitates zero-touch configuration for addition of new spokes.
- B. It supports dynamically addressed spokes using DHCP.
- C. It features automatic IPsec triggering for building an IPsec tunnel.
- D. It requires uses of IPsec to build the DMVPN cloud.
- E. Spokes can build tunnels to other spokes and exchange traffic directly.
- F. It supports server load balancing on the spokes.

**Answer:** ACE

#### QUESTION 758

Which two options are disadvantages of a commingled dual-tier WAN rate-based Ethernet circuit? (Choose two.)

- A. It requires the maintenance of separate chassis.
- B. It has limited scalability.
- C. It requires additional CPU resources at the subscriber end.
- D. It is more difficult to secure.

E. It can increase the likelihood of packet drops.

**Answer:** AE

#### QUESTION 759

When the BGP additional-paths feature is used, what allows a BGP speaker to differentiate between the different available paths?

- A. The remote BGP peer prepends its own next-hop address to the prefix.
- B. A unique path identifier is encoded into a dedicated field to the NLRI.
- C. A route distinguisher is appended to the prefix by the receiving BGP speaker.
- D. The additional path information is encoded in an extended community.

**Answer:** B

#### QUESTION 760

Drag and Drop Question

Drag each show command on the left to the description of its output on a PE router on the right.

|                                      |                                                                 |
|--------------------------------------|-----------------------------------------------------------------|
| show ip bgp vpn all                  | Lists a VRF's VPN prefixes.                                     |
| show ip bgp vpn all summary          | Lists a VRF's MPBGP and CE peers.                               |
| show ip bgp vpn vrf <vrf_id>         | Lists the VPN prefixes that the router advertises and receives. |
| show ip bgp vpn vrf <vrf_id> labels  | Lists the labels for a VRF's VPN prefixes.                      |
| show ip bgp vpn vrf <vrf_id> summary | Lists the router's MPBGP and CE peers.                          |

**Answer:**

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| show ip bgp vpn all                  | show ip bgp vpn vrf <vrf_id>         |
| show ip bgp vpn all summary          | show ip bgp vpn vrf <vrf_id> summary |
| show ip bgp vpn vrf <vrf_id>         | show ip bgp vpn all                  |
| show ip bgp vpn vrf <vrf_id> labels  | show ip bgp vpn vrf <vrf_id> labels  |
| show ip bgp vpn vrf <vrf_id> summary | show ip bgp vpn all summary          |

**QUESTION 761**

Which two improvements do SIA-Query and SIA-Reply messages add to EIGRP? (Choose two.)

- A. Stuck-in-active conditions are solved faster.
- B. They prevent a route from going into the stuck-in-active state.
- C. They help in the localization of the real failure in the network.
- D. The EIGRP adjacency between two neighbors never goes down.

**Answer:** AC

**QUESTION 762**

In which way does the Bridge Assurance mechanism modify the default spanning-tree behavior in an effort to prevent bridging loops?

- A. Received BPDUs are looped back toward the sender to ensure that the link is bidirectional.
- B. If BPDUs are no longer received on a port, the switch immediately sends out a TCN BPDU.
- C. Extended topology information is encoded into all BPDUs.
- D. BPDUs are sent bidirectional on all active network ports, including blocked and alternate ports.

**Answer:** D

**QUESTION 763**

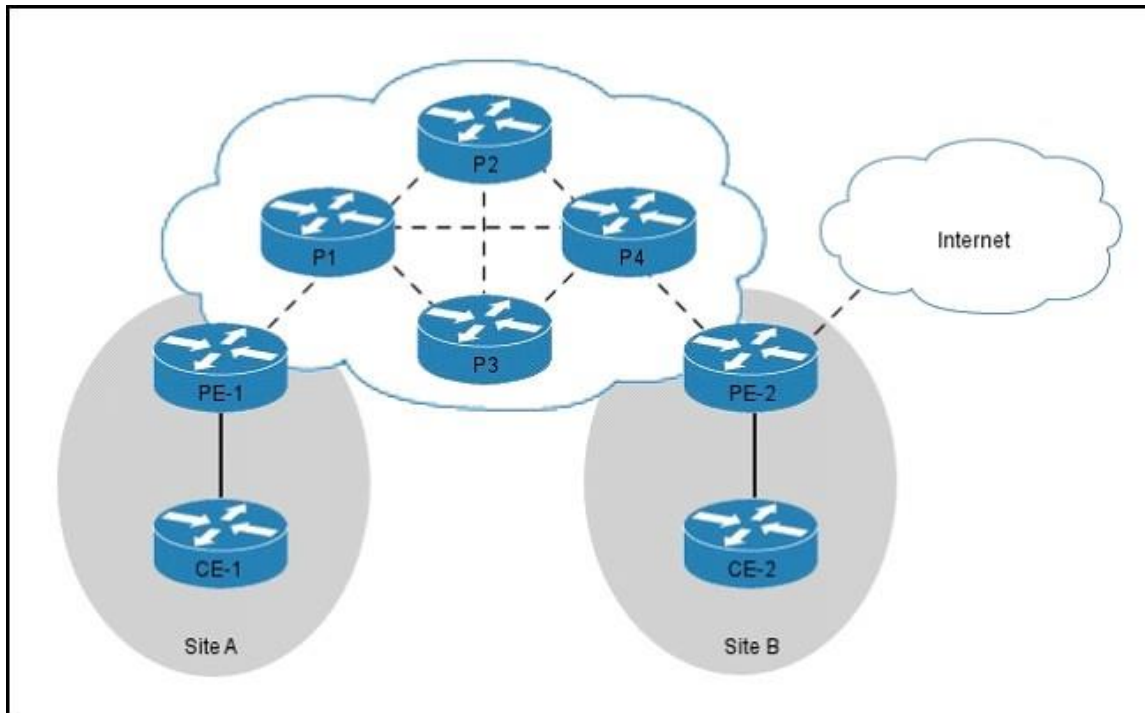
When you enable the MPLS Multi-VRF feature, which two supported routing protocols can be used to exchange routing information between PE routers and CE routers? (Choose two.)

- A. BGP
- B. RIP
- C. OSPF
- D. EIGRP
- E. IS-IS

**Answer:** AB

**QUESTION 764**

Refer to the exhibit. Which two actions can you take to enable CE-1 at site A to access the Internet? (Choose two.)



- A. Create a default route for site A on PE-1 with the next hop set to the PE-2 interface to the Internet.
- B. Originate a default route in site B with the next hop set to the PE-2 Internet interface, and import the default route into site A.
- C. Create a default route on CE-1 with the next hop set to the PE-1 upstream interface.
- D. Originate a default route in site A with the next hop set to the PE-2 interface to CE-1.
- E. Create a static default route on CE-1 with the next hop set to the PE-2 interface to the Internet.

**Answer:** AB

#### QUESTION 765

Which statement about OSPF loop prevention is true?

- A. The discard route is generated automatically on the ABR to prevent routing loops.
- B. The ASBR uses type 3 LSAs from non-backbone areas to prevent control-plane routing loops.
- C. The ABR can filter type 3 LSPs to prevent routing loops.
- D. The DN bit ignores LSA types 2, 3, and 5 to prevent routing loops.

**Answer:** A

#### QUESTION 766

Which map is locally defined?

- A. DSCP-to-DSCP-mutation
- B. CoS-to-DSCP
- C. IP-precedence-to-DSCP
- D. DSCP-to-CoS

**Answer: A**

**QUESTION 767**

What is the VLAN ID range of VLANs that are eligible for pruning?

- A. 2 through 1001
- B. 1 through 1005
- C. 1 through 4096
- D. 2 through 1005

**Answer: A**

**QUESTION 768**

Which two statements about IS-IS wide metrics are true? (Choose two.)

- A. The wide metric is a 24-bit field.
- B. The maximum link metric is 16777215.
- C. R3 and R4 periodically advertise PNSP messages to synchronize the IS-IS database.
- D. IS-IS devices that are enabled with wide metrics can become neighbors with a device that uses standard metrics.
- E. The maximum link metric is 4261412864.
- F. The maximum path metric is 16777215.

**Answer: AB**

**QUESTION 769**

Which two statements about Metro Ethernet services are true? (Choose two.)

- A. EPL is a point-to-point service from one customer site to another across an MPLS backbone.
- B. EVPL is a multipoint service that emulates a LAN over an MPLS backbone.
- C. EPLAN is a multipoint service that emulates a LAN over an MPLS backbone.
- D. EVPL is a point-to-point service from one customer site to another across an MPLS backbone.
- E. ELAN is a point-to-point service from one customer site to another across an MPLS backbone.
- F. EVPL is a multipoint service with a root node that is suitable for multicast services.

**Answer: AC**

**QUESTION 770**

RIPv2 is enabled on a router interface. The "neighbor" command is also configured with a specific IP address. Which statement describes the effect of this configuration?

- A. RIP stops sending multicast packets on that interface.
- B. RIP starts sending only unicast packets on that interface.
- C. RIP starts ignoring multicast packets on that interface.
- D. RIP starts sending unicast packets to the specified neighbor, in addition to multicast packets.

**Answer: D**

**QUESTION 771**

When you implement CoPP on your network, what is its default action?

- A. permit all traffic
- B. rate-limit bidirectional traffic to the control plane
- C. drop management ingress traffic to the control plane
- D. monitor ingress and egress traffic to the control plane by using access groups that are applied to the interface
- E. block all traffic

**Answer:** A

**QUESTION 772**

Which two statements about IPv4 and IPv6 networks are true? (Choose two.)

- A. In IPv6, hosts perform fragmentation.
- B. IPv6 uses a UDP checksum to verify packet integrity.
- C. In IPv6, routers perform fragmentation.
- D. In IPv4, fragmentation is performed by the source of the packet.
- E. IPv4 uses an optional checksum at the transport layer.
- F. IPv6 uses a required checksum at the network layer.

**Answer:** AB

**QUESTION 773**

What are two benefits of NVI? (Choose two.)

- A. It provides scalability by maintaining a NAT table on every interface.
- B. It can dynamically create a static route to the NAT pool for translation.
- C. It supports the use of route maps for policy-based NAT.
- D. It supports the use of a single interface for translations.
- E. It injects a route into the existing routing protocol that directs translation to the NAT pool.

**Answer:** AB

**QUESTION 774**

Drag and Drop Question

Drag each spanning-tree feature on the left to the matching statement on the right.



|                    |                                                                                               |
|--------------------|-----------------------------------------------------------------------------------------------|
| BackboneFast       | Can create loops when configured on a non-host port.                                          |
| BPDU filtering     | Error-disables a port when it receives an erroneous BPDU.                                     |
| BPDU guard         | Enables the root port to transition directly from the blocking state to the forwarding state. |
| EtherChannel guard | Detects misconfigurations between a switch and a connected device.                            |
| Port Fast          | Discards inbound BPDUs and prevents the interface from sending outbound BPDUs.                |
| UplinkFast         | Starts spanning-tree reconfiguration when it detects an indirect link failure.                |

**Answer:**

|                    |                    |
|--------------------|--------------------|
| BackboneFast       | Port Fast          |
| BPDU filtering     | BPDU guard         |
| BPDU guard         | UplinkFast         |
| EtherChannel guard | EtherChannel guard |
| Port Fast          | BPDU filtering     |
| UplinkFast         | BackboneFast       |

**QUESTION 775**

Which two BGP attributes are optional, non-transitive attributes? (Choose two.)

- A. AS path
- B. local preference
- C. MED
- D. weight
- E. cluster list

**Answer:** CE

**QUESTION 776**

Which three statements about EIGRP wide metrics are true? (Choose three.)

- A. The maximum metric is 65536.
- B. The default delay is 1,000,000 picoseconds.
- C. They allow up to 100 hops.
- D. They allow up to 256 hops.
- E. The default delay is 1,000,000 milliseconds.
- F. The maximum metric is 51200.

**Answer:** ABC

**QUESTION 777**

Which component of the BGP ORF can you use to permit and deny routing updates?

- A. match
- B. action
- C. AFI
- D. SAFI
- E. ORF type

**Answer:** A

**QUESTION 778**

Which two issues is TCP Sequence Number Randomization designed to prevent? (Choose two.)

- A. DDOS attacks
- B. OS fingerprinting
- C. man-in-the-middle attacks
- D. ARP poisoning
- E. Smurf attack

**Answer:** BC

**QUESTION 779**

Which two OSPF network types require the use of a DR and BDR? (Choose two.)

- A. non-broadcast networks
- B. point-to-point networks
- C. point-to-multipoint networks
- D. broadcast networks
- E. point-to-multipoint non-broadcast networks

**Answer:** AD

**QUESTION 780**

Which attribute is transported over an MPLS VPN as a BGP extended community?

- A. route target
- B. route distinguisher
- C. NLRI

- D. origin
- E. local preference

**Answer:** A

**QUESTION 781**

Which two statements about IP SLAs are true? (Choose two.)

- A. They are Layer 2 transport independent.
- B. Statistics are collected and stored in the RIB.
- C. Data for the delay performance metric can be collected both one-way and round-trip.
- D. Data can be collected with a physical probe.
- E. They are used primarily in the distribution layer.

**Answer:** AC

**QUESTION 782**

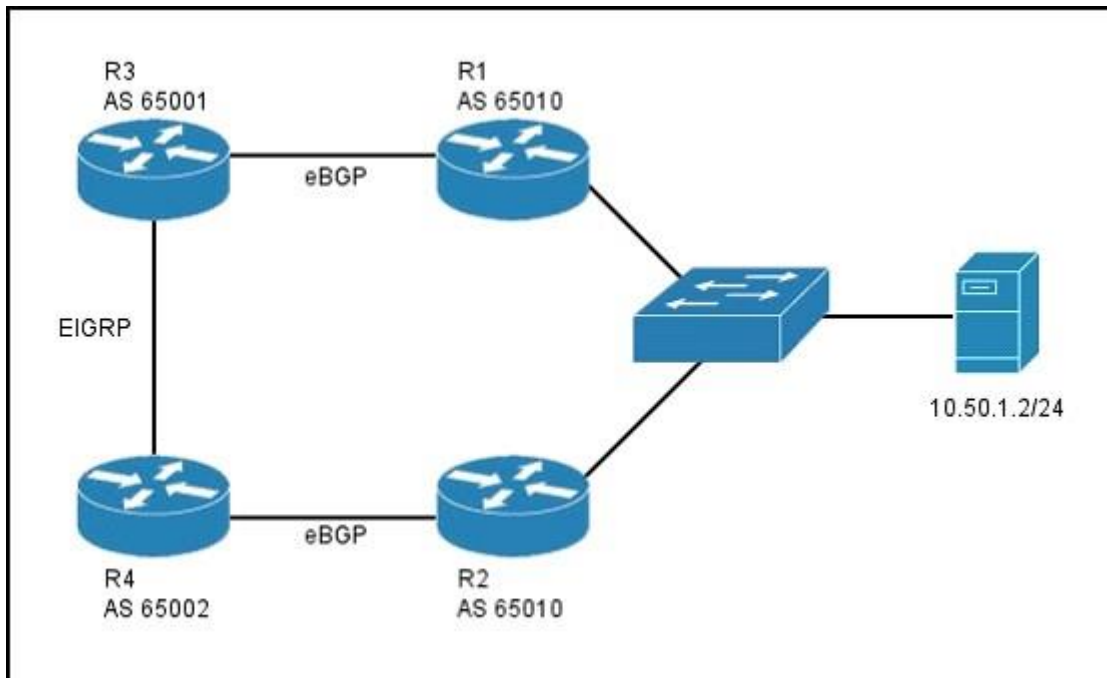
Which three improvements does Cisco IOS XE Software offer over traditional IOS Software? (Choose three.)

- A. It can run applications as separate processes on multicore CPUs.
- B. It supports drivers for data plane ASICs outside of the operating system.
- C. It allows platform-dependent code to be compiled into a single image.
- D. It supports multiple IOS instances simultaneously, sharing resources and internal infrastructure for scalability.
- E. It allows platform-independent code to be abstracted into a single microkernel for portability across platforms.
- F. It uses a QNX Neutrino-based environment underneath the IOS Software.

**Answer:** ABC

**QUESTION 783**

Refer to the exhibit. R1 and R2 both advertise 10.50.1.0/24 to R3 and R4 as shown. R1 is the primary path. Which path does traffic take from the R4 data center to the file server?



- A. All traffic travels from R4 to R2 to the file server.
- B. All traffic travels from R4 to R3 to R1 to the file server.
- C. Traffic is load-balanced from R4 to R2 and R3. Traffic that is directed to R3 then continues to R1 to the file server. Traffic that is directed to R2 continues to the file server.
- D. All traffic travels from R4 to R2 to R1 to the file server.

**Answer: D**

#### QUESTION 784

Refer to the exhibit. If a console port is configured as shown, which response is displayed when you connect to the console port?

```

username admin password 0 notsecure
aaa new-model
aaa authentication login default group tacacs+ local
aaa authorization exec default group tacacs+ local
banner motd ^C
Authorized users only.
^C
line con 0
 exec-timeout 5 0
 privilege level 15
 no vacant-message
 activation-character 124

```

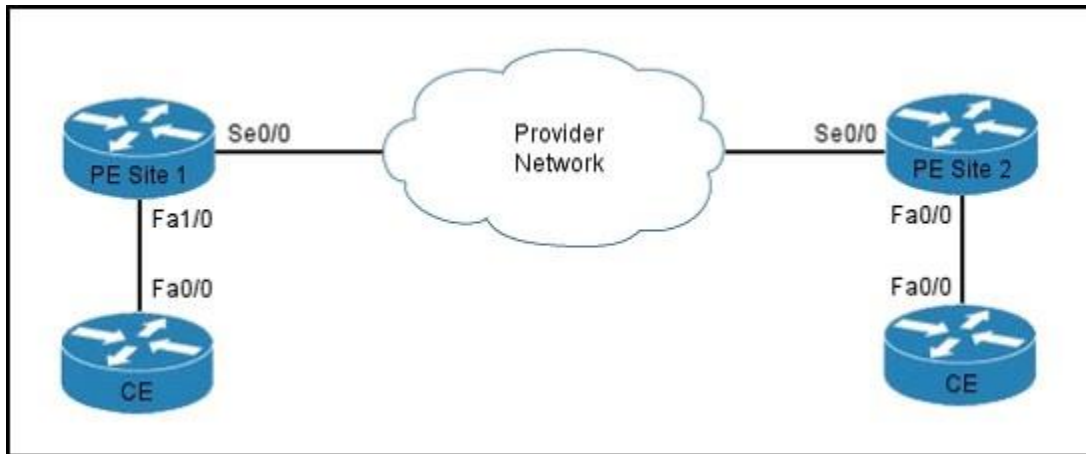
- A. a blinking cursor
- B. the message "Authorized users only"
- C. the username prompt
- D. three username name prompts followed by a timeout message

E. the message "Connection refused"

**Answer: A**

**QUESTION 785**

Refer to the exhibit. Your organization has two offices, Site 1 and Site 2, which are connected by a provider backbone, as shown. Where must you configure an attachment circuit to allow the two sites to connect over a Layer 2 network using L2TPv3?



- A. PE Site 1 Fa1/0 and PE Site 2 Fa0/0
- B. CE Site 1 Fa0/0 and CE Site 2 Fa0/0
- C. PE Site 1 Se0/0 and PE Site 2 Se0/0
- D. CE Site 1 Fa0/0 and PE Site 2 Se0/0

**Answer: A**

**QUESTION 786**

What is the destination address of an IGMPv2 general membership query?

- A. 224.0.0.1
- B. 224.0.1.1
- C. 224.0.0.2
- D. the multicast group address

**Answer: A**

**QUESTION 787**

Which statement about SSHv2 is true?

- A. Routers acting as SSH clients can operate without RSA keys.
- B. SSHv2 supports port forwarding and compression.
- C. The RSA key pair size must be at least 512.
- D. You must configure a default gateway before you enable SSHv2.

**Answer: A**

**QUESTION 788**

Refer to the exhibit. What kind of problem is detected?

```
Router#ping
Protocol [ip]:
Target IP address: 209.165.200.200
Repeat count [5]: 1
Datagram size [100]:
Timeout in seconds [2]:
Extended commands [n]: y
Source address or interface:
Type of service [0]:
Set DF bit in IP header? [no]: y
Validate reply data? [no]:
Data pattern [0xABCD]:
Loose, Strict, Record, Timestamp, Verbose[none]:
Sweep range of sizes [n]: y
Sweep min size [36]: 1460
Sweep max size [18024]: 1500
Sweep interval [1]:
Type escape sequence to abort.
Sending 41, [1460..1500]-byte ICMP Echos to 209.165.200.200,
timeout is 2 seconds:
Packet sent with the DF bit set
!!MMMMMMMM
Success rate is 80 percent (33/41), round-trip min/avg/max =
28/28/32 ms
Router#
```

- A. The packet types that are being sent are unknown.
- B. The maximum MTU size that can be used is 1492.
- C. Waiting for a reply timed out.
- D. Fragmentation starts to occur when the MTU of 1472 is reached.

**Answer: B**

**QUESTION 789**

Which two statements about MLD are true? (Choose two.)

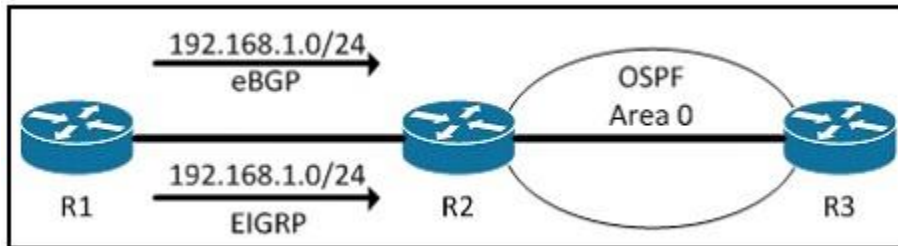
- A. MLD is a subprotocol of ICMPv6.
- B. When a single link supports multiple interfaces, only one interface is required to send MLD messages.
- C. MLD is a subprotocol of PIMv6.
- D. When a single link supports multiple interfaces, all supported interfaces are required to send MLD messages.
- E. There are three subtypes of MLD query messages.
- F. The code section in the MLD message is set to 1 by the sender and ignored by receivers.



**Answer: AB**

**QUESTION 790**

Refer to the exhibit. Router R2 is learning the 192.168.1.0/24 network from R1 via EIGRP and eBGP. R2 then redistributes EIGRP into OSPF as metric-type 2 with default metrics. Which metric of the route in the R3 routing table?



- A. 20
- B. 30
- C. 110
- D. The route is not present in the R3 routing table.

**Answer: D**

**QUESTION 791**

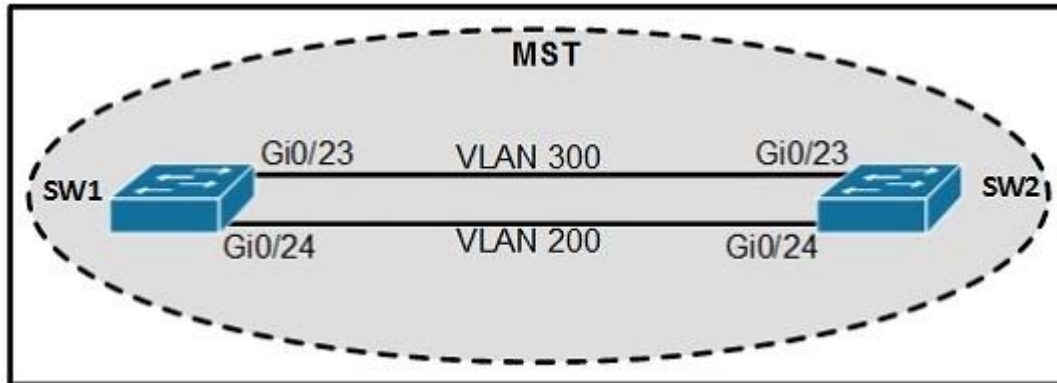
Which two statements about OSPFv3 are true? (Choose two.)

- A. It supports unicast address families for IPv4 and IPv6.
- B. It supports unicast address families for IPv6 only.
- C. It supports only one address family per instance.
- D. It supports the use of a cluster ID for loop prevention.
- E. It supports multicast address families for IPv4 and IPv6.
- F. It supports multicast address families for IPv6 only.

**Answer: AC**

**QUESTION 792**

Refer to the exhibit. The VLAN-to-MST mapping is shown. (Assume SW1 acts as root for all possible MST instances.)



```
spanning-tree mst configuration name MST?
revision 2?
instance 0 vlan 1-200,301-4094 instance 1 vlan 201-300
!
```

If this topology is deployed, which action is required for traffic to flow on VLAN 200 and 300?

- A. Map VLAN 300 to instance 0.
- B. Map VLAN 200 to instance 2.
- C. Move instance 0 root to SW2.
- D. Move instance 1 root to SW2.
- E. Map both VLANs to instance 2.

**Answer: B**

#### QUESTION 793

Which two statements about VRRP are true? (Choose two.)

- A. It is assigned multicast address 224.0.0.18.
- B. The TTL for VRRP packets must be 255.
- C. It is assigned multicast address 224.0.0.9.
- D. Its IP protocol number is 115.
- E. Three versions of the VRRP protocol have been defined.
- F. It supports both MD5 and SHA1 authentication.

**Answer: AB**

#### QUESTION 794

Drag and Drop Question

Drag each routing protocol on the left to the matching statement on the right.

|       |                                                                                                                                                 |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| BGP   | Has low resource usage and can be configured to send either unicast or multicast updates.                                                       |
| IS-IS | Has high resource usage and requires the administrator to modify routing behavior to limit the information that is sent to non-backbone levels. |
| OSPF  | Has high resource usage and supports a proprietary Cisco option to perform primary route calculation.                                           |
| RIPv2 | Has high resource usage and uses TLV to incorporate features.                                                                                   |

**Answer:**

|       |       |
|-------|-------|
| BGP   | RIPv2 |
| IS-IS | OSPF  |
| OSPF  | BGP   |
| RIPv2 | IS-IS |

#### QUESTION 795

Which two statements about IBGP multipath are true? (Choose two.)

- A. The IGP metric of the BGP next hop can be different from the best-path IGP metric if you configure the router for unequal-cost IBGP multipath.
- B. The IGP metric of the BGP next hop must be the same as the best-path IGP metric.
- C. The equivalent next-hop-self is performed on the best path from among the IBGP multipaths before it is forwarded to external peers.
- D. The path should be learned from an external neighbor.
- E. The router BGP process must learn the path from a confederation-external or external neighbor.
- F. The router BGP process must learn the path from an internal neighbor.

**Answer:** AF

#### QUESTION 796

Which statement about a P router in a Layer 3 MPLS VPN is true?

- A. It is unaware of VPN routes.
- B. It connects to customer edge routers.
- C. It participates in MPLS VPN routing.

D. It uses the running IGP to share VPN routes.

**Answer:** A

**QUESTION 797**

Which two statements about PIM-DM are true? (Choose two.)

- A. It forwards multicast packets on a source tree.
- B. It requires an RP.
- C. It forwards multicast packets on a shared distribution tree.
- D. It floods multicast packets to neighbors that have requested the data.
- E. It floods multicast packets throughout the network.
- F. It forwards multicast packets to neighbors that have requested the data.

**Answer:** AE

**QUESTION 798**

Which two statements about the MAC address table space are true? (Choose two.)

- A. You can disable learning on a VLAN to reduce table-space requirements.
- B. When you disable learning on a VLAN with an SVI, IP packet flooding in the Layer 2 domain is also disabled.
- C. Unicast, multicast, and broadcast MAC address filtering is configured globally and disabled by default.
- D. The default setting for static MAC addresses to age out of the MAC address table is 300 seconds.
- E. Turning off MAC learning on VLANs 900 through 1005 disables learning on VLANs 900 through 1001.

**Answer:** AE

**QUESTION 799**

Which statement about LISP encapsulation in an EIGRP OTP implementation is true?

- A. OTP uses LISP encapsulation for dynamic multipoint tunneling.
- B. OTP maintains the LISP control plane.
- C. OTP uses LISP encapsulation to obtain routes from neighbors.
- D. LISP learns the next hop.

**Answer:** A

**QUESTION 800**

Refer to the exhibit. Which two benefits result from using this command on a switch? (Choose two.)

```
Switch(config-if)#switchport block unicast
```

- A. The port cannot forward unknown unicast packets.

- B. Network security is increased on the configured port.
- C. The port cannot forward unknown multicast packets.
- D. The port cannot forward unknown broadcast packets.
- E. Network security is increased on all ports of the switch.
- F. Unknown packets of all types, except unicast, are blocked.

**Answer:** AB

**QUESTION 801**

Refer to the exhibit. IPv6 SLAAC clients that are connected to the router are unable to acquire IPv6 addresses.

What is the reason for this issue?

```
ROGW-1#show ipv6 interface g0/1
GigabitEthernet0/1 is up, line protocol is up
IPv6 is enabled, link-local address is FE80::4000
No Virtual link-local address(es):
Global unicast address(es):
 2001:DB8:4000::4000, subnet is 2001:DB8:4000::/64
Joined group address(es):
 FF02::1
 FF02::2
 FF02::1:2
 FF02::1:FF00:4000
MTU is 1280 bytes
ICMP error messages limited to one every 100 milliseconds
ICMP redirects are enabled
ICMP unreachable are sent
ND DAD is disabled
ND reachable time is 30000 milliseconds (using 30000)
ND advertised reachable time is 0 (unspecified)
ND advertised retransmit interval is 0 (unspecified)
ND router advertisements are sent every 5 seconds
ND router advertisements live for 1800 seconds
ND advertised default router preference is Low
ND RAs are suppressed (periodic)
Hosts use stateless autoconfig for addresses.
Hosts use DHCP to obtain other configuration.
```

- A. Router advertisements are not sent by the router.
- B. Duplicate address detection is disabled but is required on multiaccess networks.
- C. The interface is configured to support DHCPv6 clients only.
- D. The configured interface MTU is too low for IPv6 to be operational.

**Answer:** A

**QUESTION 802**

Which three statements about the default behaviour of eBGP sessions are true? (Choose three.)

- A. eBGP sessions between sub-ASs in different confederations transmit the next hop unchanged.
- B. The next hop in an eBGP peering is the IP address of the neighbor that announced the route.
- C. When a route reflector reflects a route to a client, it transmits the next hop unchanged.
- D. The next hop in an eBGP peering is the loopback address of the interface that originated the route.
- E. The next hop in an eBGP peering is the loopback address of the neighbor that announced the route.
- F. When a route reflector reflects a route to a client, it changes the next hop to its own address.

**Answer:** ABC

**QUESTION 803**

Which two statements about path selection are true? (Choose two.)

- A. If there are multiple equal matches between OSPF processes, the path with the lowest OSPF PID is chosen.
- B. If the backdoor command is configured on a BGP network, the route is advertised with an AD of 20.
- C. If an OSPF E2 route has an AS of 90, that path is preferred over an OSPF IA route with an AD of 110.
- D. If there are multiple equal matches between the same protocols on an EIGRP network, the preferred path will be EIGRP with the highest AS.
- E. If IS-IS has multiple routes with the same prefix-length, it will prefer Level 1 routes over Level 2 routes.

**Answer:** AE

**QUESTION 804**

Which two statements about MAC Authentication Bypass are true? (Choose two.)

- A. Traffic from an endpoint is authorized to pass after MAB authenticates the MAC address of the endpoint.
- B. During the learning stage, the switch examines multiple packets from the endpoint to determine the MAC address of the endpoint.
- C. After the switch learns the MAC address of the endpoint, it uses TACACS+ to authenticate it.
- D. After learning a source MAC address, it sends the host a RADIUS Account-Request message to validate the address.
- E. The MAC address of a device serves as its user name and password to authenticate with a RADIUS server.

**Answer:** AE

**QUESTION 805**

An IP SLA fails to generate statistics. How can you fix the problem?

- A. Add the verify-data command to the router configuration.



- B. Reload the router configuration.
- C. Remove the ip sla schedule statement from the router configuration and re-enter it.
- D. Add the debug ip sla error command to the router configuration.
- E. Add the debug ip sla trace command to the router configuration.

**Answer:** A

**QUESTION 806**

Which statement about UDLD is true?

- A. The udld reset command resets ports that have been error-disabled by both UDLD and Fast UDLD.
- B. Fast UDLD is configured in aggressive mode.
- C. Only bidirectional link failures can be detected in normal mode.
- D. Each switch in a UDLD topology can send and receive packets to and from its neighbors.

**Answer:** A

**QUESTION 807**

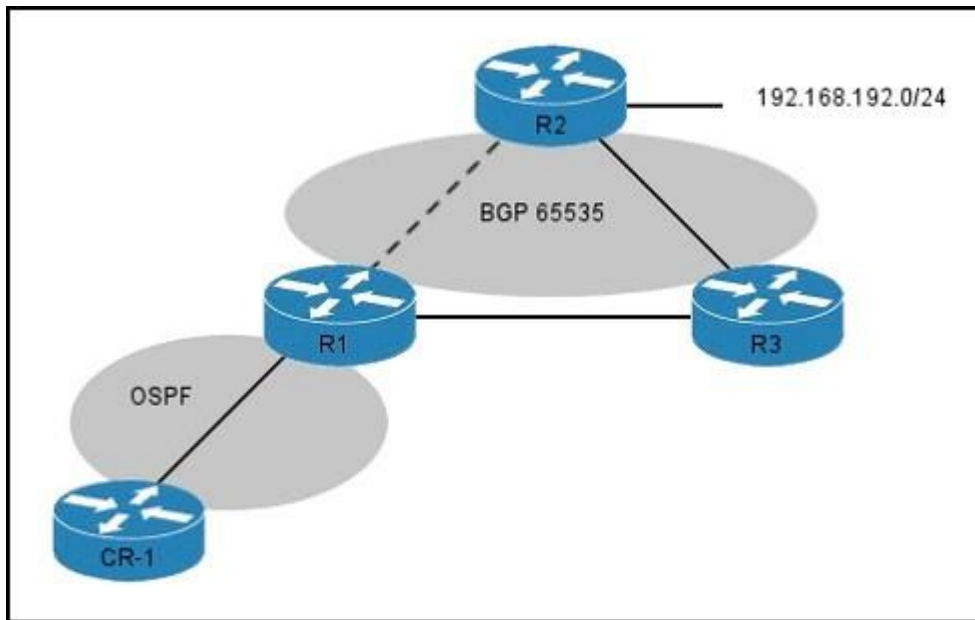
What are two benefits of Per-Tunnel QoS for DMVPN? (Choose two.)

- A. The administrator can configure criteria that, when matched, can automatically set up QoS for each spoke as it comes online.
- B. Traffic from each spoke to the hub can be regulated individually.
- C. When traffic exceeds a configurable threshold, the spokes can automatically set up QoS with the hub.
- D. The hub can send large packets to a spoke during allotted timeframes.
- E. The hub can be regulated to prevent overloading small spokes.

**Answer:** AE

**QUESTION 808**

Refer to the exhibit. If a connection failure occurs between R1 and R2, which two actions can you take to allow CR-1 to reach the subnet 192.168.192.0/24 on R2? (Choose two.)



- A. Create a static route on R1 for subnet 192.168.192.0/24 towards R3 and redistribute it into OSPF.
- B. Turn up a BGP session between CR-1 and R1.
- C. Create a static route on R1 for subnet 192.168.192.0/24 towards R3 and redistribute it into BGP.
- D. Turn up an EIGRP session between R1 and R3 with AS 65535.
- E. Create an OSPF virtual link between CR-1 and R2 to bypass R1.

**Answer:** AB

#### QUESTION 809

Which two statements about Cisco Performance Routing are true? (Choose two.)

- A. It analyzes application performance to make routing decisions.
- B. When determining the best path, it prefers the shortest path.
- C. It can help the administrator determine the need for bandwidth upgrades.
- D. It operates entirely in the data plane.
- E. It can use EIGRP feasible successors to determine an alternate path.
- F. It analyzes system hardware performance to make routing decisions.

**Answer:** AE

#### QUESTION 810

What is the function of an implicit-null label?

- A. It notifies the upstream LSR to remove the top label in the label stack and forward the packet.
- B. It notifies the upstream LSR to add a VPN label to the label stack.
- C. It is used to statically assign a label to an IGP route.
- D. It is used to identify the router ID.

**Answer:** A

**QUESTION 811**

Refer to the exhibit. Which statement about this GET VPN configuration is true?

| Router 1                                                                                                                                                               | Router 2                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>crypto isakmp keepalive 15 periodic crypto gdoi group TESTGROUP server local address ipv4 10.1.1.1 redundancy local priority 250 peer address ipv4 10.0.1.2</pre> | <pre>crypto isakmp keepalive 15 periodic crypto gdoi group TESTGROUP server local address ipv4 10.0.1.2 redundancy local priority 200 peer address ipv4 10.1.1.1</pre> |

- A. Router 1 acts as the primary key server because it has a higher priority.
- B. An RSA key has been imported into the configuration.
- C. The GDOI group configuration generated a key.
- D. DPD is disabled.

**Answer:** A

**QUESTION 812**

Which two statements about BGP prefix-based outbound filtering are true? (Choose two.)

- A. It must be configured per address family.
- B. It can use prefix lists and route maps for filtering.
- C. It can be configured under the global BGP routing process.
- D. It can be configured for external peering sessions only.
- E. It can increase the processing load on the router.
- F. It supports IP multicast routes.

**Answer:** AD

**QUESTION 813**

Drag and Drop Question

Drag each statement about EtherChannel protocols on the left to the matching EtherChannel protocol on the right.

|                                                    |      |
|----------------------------------------------------|------|
| A Cisco Proprietary protocol.                      | PAgP |
| Supports 8 ports in a port group, with all active. | 1    |
| Supports auto and desirable configuration modes.   | 2    |
| Supported by the IEEE 802.3ad protocol.            | 3    |
| Supports 16 ports in a port group, with 8 active.  | LACP |
| Supports active and passive configuration modes.   | 1    |
|                                                    | 2    |
|                                                    | 3    |

**Answer:**

|                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|
| A Cisco Proprietary protocol.                      | PAgP                                               |
| Supports 8 ports in a port group, with all active. | A Cisco Proprietary protocol.                      |
| Supports auto and desirable configuration modes.   | Supports 8 ports in a port group, with all active. |
| Supported by the IEEE 802.3ad protocol.            | Supports auto and desirable configuration modes.   |
| Supports 16 ports in a port group, with 8 active.  | LACP                                               |
| Supports active and passive configuration modes.   | Supported by the IEEE 802.3ad protocol.            |
|                                                    | Supports 16 ports in a port group, with 8 active.  |
|                                                    | Supports active and passive configuration modes.   |

#### QUESTION 814

Which two statements about Layer 2 Frame Prioritization bits are true? (Choose two.)

- A. 802.1Q frame headers carry the CoS value in the three most-significant bits of the 2- byte Tag Control Information field.
- B. ISL frame headers carry an IEEE 802.1P CoS value in the three least-significant bits of the 2-byte User field.

- C. ISL frame headers carry an IEEE 802.1P CoS value in the three most-significant bits of the 1-byte User field.
- D. On 802.1Q trunks, traffic in the native VLAN is carried in 802.1Q frames.
- E. Only 802.1Q and ISL frame types can carry CoS information.
- F. On 802.1Q trunks, traffic in the native VLAN is carried in 802.1P frames.

**Answer:** AE

#### QUESTION 815

Refer to the exhibit. Which statement about authentication on Router A is true?

```
RouterA#show run
Building configuration...

aaa authentication login default group tacacs+ local

tacacs server host 10.1.1.2 single-connection
tacacs server directed-request
tacacs server key ciscotacacs

end
```

- A. The router will attempt to authenticate users against TACACS+ only.
- B. The router will attempt to authenticate users against the local database only.
- C. The router will attempt to authenticate users against the local database first, and fall back to TACACS+ if the local database authentication fails.
- D. The router will authenticate users against the default database only.
- E. The router will attempt to authenticate users against TACACS+ first, and fall back to the local database if the TACACS+ authentication fails.

**Answer:** E

#### QUESTION 816

Drag and Drop Question

Drag each OSPF route-type identifier on the left to its description on the right.

|      |                                                                                 |
|------|---------------------------------------------------------------------------------|
| E1   | A translated, redistributed route whose metric increments along the path.       |
| E2   | A route from another area.                                                      |
| N1   | A route within an area.                                                         |
| N2   | A redistributed route whose metric remains the same along the path.             |
| O    | A redistributed route whose metric increments along the path.                   |
| O IA | A translated, redistributed route whose metric remains the same along the path. |

**Answer:**

|      |      |
|------|------|
| E1   | N1   |
| E2   | O IA |
| N1   | O    |
| N2   | E2   |
| O    | E1   |
| O IA | N2   |

**QUESTION 817**

When you implement PfR, which IP SLA probe is used to determine the MOS?

- A. jitter
- B. latency
- C. packet loss
- D. throughput

**Answer: A**

**QUESTION 818**

Refer to the exhibit. What password will be required to enter privileged EXEC mode on a device with the given configuration?



```
Router1#sh run
Building configuration...

Current configuration : 7418 bytes

enable password cisco

enable secret ciscotest

line con 0
 exec-timeout 0 0
 password ciscocert
 logging synchronous
line aux 0
 password ciscoccie
line vty 0 4
 password ciscors

end
```

- A. ciscotest
- B. ciscocert
- C. cisco
- D. ciscors
- E. ciscoccie

**Answer: A**

#### QUESTION 819

Which two attributes were introduced with the Cisco IOS BGP 4-byte ASN feature? (Choose two.)

- A. AS4\_AGGREGATOR
- B. AS4\_PATH
- C. AS4\_PLAIN
- D. AS4\_DOT
- E. AS4\_TRANS

**Answer: AB**

#### QUESTION 820

How is the MRU for a multilink bundle determined?

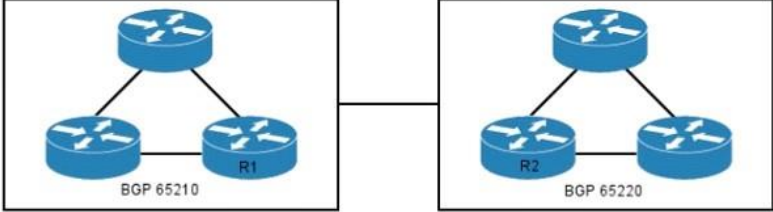
- A. It is negotiated by LCP.
- B. It is manually configured on the multilink bundle.
- C. It is manually configured on all physical interfaces of a multilink bundle.
- D. It is negotiated by NCP.
- E. It is negotiated by IPCP.

**Answer: A**

### QUESTION 821

Refer to the exhibit. Two multicast domains are configured as shown and connected with MSDP, but the two domains are unable to communicate.

Which two actions can you take to correct the problem? (Choose two.)



```

R1#show run int lo0
Building configuration...
Current configuration : 116 bytes
interface Loopback0
 ip address 10.0.0.10 255.255.255.255
end

R1#show run int Gi0/0/0
Building configuration...
Current configuration : 233 bytes
interface GigabitEthernet0/0/0
 ip address 172.16.1.13 255.255.255.252
end

R1# show run | include msdp
Building configuration...
Current configuration : 120 bytes
ip msdp originator-id loopback 0
ip msdp peer 10.0.0.10 connect-source loopback 0 remote-as 65220
end

```

```

R2#show run int lo0
Building configuration...
Current configuration : 116 bytes
interface Loopback0
 ip address 10.0.0.20 255.255.255.255
end

R2#show run int Gi0/0/0
Building configuration...
Current configuration : 233 bytes
interface GigabitEthernet0/0/0
 ip address 172.16.1.14 255.255.255.252
end

R2# show run | include msdp
Building configuration...
Current configuration : 120 bytes
ip msdp originator-id loopback 0
ip msdp peer 10.0.0.10 connect-source loopback 0 remote-as 65210
end

```

- A. Change the peering IP address in AS 65220 to 10.0.0.20.
- B. Change the peering AS on R2 to 65210.
- C. Verify that UDP port 639 is open.
- D. Verify that TCP port 139 is open.
- E. Change the MSDP originator-id to GigabitEthernet 0/0/0 on both routers.
- F. Change the MSDP peering IP address on R2 to 172.16.1.13.

**Answer:** AB

### QUESTION 822

Which two statements about 802.1Q tunneling are true? (Choose two.)

- A. It requires a system MTU of at least 1504 bytes.
- B. The default configuration sends Cisco Discovery Protocol, STP, and VTP information.
- C. Traffic that traverses the tunnel is encrypted.
- D. It is supported on private VLAN ports.
- E. MAC-based QoS and UDLD are supported on tunnel ports.
- F. Its maximum allowable system MTU is 1546 bytes.

**Answer:** AE

### QUESTION 823

Drag and Drop Question

Drag each IS-IS command on the left to its effect on the right.

|                                   |                                                          |
|-----------------------------------|----------------------------------------------------------|
| isis csnp-interval                | Sets the delay between successive LSP transmissions.     |
| isis lsp-interval                 | Enables graceful restart.                                |
| isis retransmit-throttle interval | Sets the delay between point-to-point LSP transmissions. |
| isis three-way-handshake ietf     | Configures point-to-point adjacencies.                   |
| nsf cisco                         | Maintains database synchronization.                      |
| nsf ietf                          | Enables nonstop routing.                                 |

**Answer:**

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| isis csnp-interval                | isis lsp-interval                 |
| isis lsp-interval                 | nsf ietf                          |
| isis retransmit-throttle interval | isis retransmit-throttle interval |
| isis three-way-handshake ietf     | isis three-way-handshake ietf     |
| nsf cisco                         | isis csnp-interval                |
| nsf ietf                          | nsf cisco                         |

### QUESTION 824

Which value is the maximum segment size if you start with an MTU of 1500 bytes and then remove the overhead of the Ethernet header, IP header, TCP header, and the MAC frame check sequence?

- A. 1434 bytes
- B. 1460 bytes
- C. 1458 bytes
- D. 1464 bytes

**Answer: B**

**QUESTION 825**

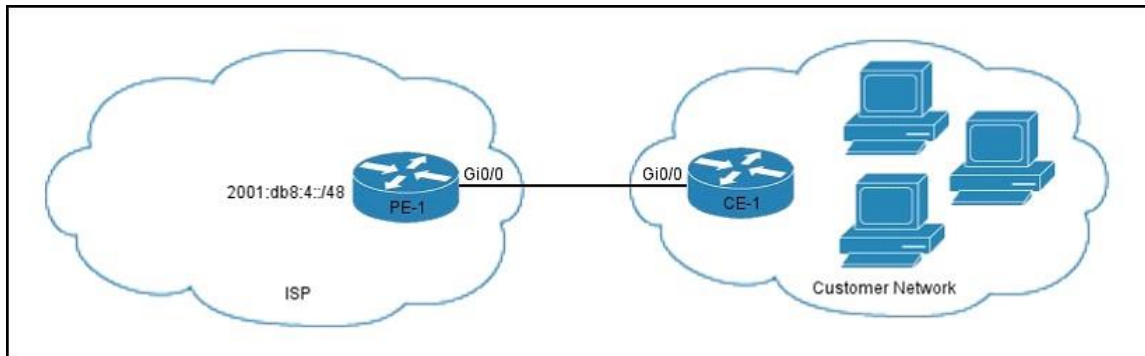
Which cache aggregation scheme is supported by NetFlow ToS-based router aggregation?

- A. prefix-port
- B. AS
- C. protocol port
- D. destination prefix

**Answer: A**

**QUESTION 826**

Refer to the exhibit. Which configuration can you implement on PE-1 to allow CE-1 to receive delegated IPv6 prefixes?



A.

```
ipv6 local pool CE-1 2001:db8:4:8888::/48 56
ipv6 dhcp pool CE-1-DHCP
 prefix-delegation pool CE-1 lifetime infinite infinite
interface GigabitEthernet0/0
 ipv6 address 2001:db8:4:822::1/64
 ipv6 dhcp server CE-1-DHCP
```

B.

```
ipv6 local pool CE-1 2001:db8:4:8888/49 56
ipv6 dhcp pool CE-1-DHCP
interface GigabitEthernet0/0
 ipv6 address 2001:db8:4:822::1/64
 ipv6 dhcp server CE-1
```

C.

```
ipv6 local pool CE-1 2001:db8:4:8888/56 48
ipv6 dhcp pool CE-1-DHCP
 prefix-delegation pool CE-1 lifetime infinite infinite
interface GigabitEthernet0/0
 ipv6 address 2001:db8:4:822::1/64
 ipv6 dhcp server CE-1-DHCP
```

D.

```
ipv6 local pool CE-1 2001:db8:4:8888::/48 32
ipv6 dhcp pool CE-1-DHCP
 prefix-delegation pool CE-1 lifetime infinite infinite
interface GigabitEthernet0/0
 ipv6 address 2001:db8:4:822::1/64
 ipv6 dhcp server CE-1-DHCP
```

E.

```
ip local pool CE-1 2001:db8:4:8888::/64 48
ipv6 dhcp pool CE-1-DHCP
 prefix-delegation pool CE-1 lifetime infinite infinite
interface GigabitEthernet0/0
 ipv6 address 2001:db8:4:822::1/64
 ipv6 dhcp server CE-1-DHCP
```

**Answer: A**

#### QUESTION 827

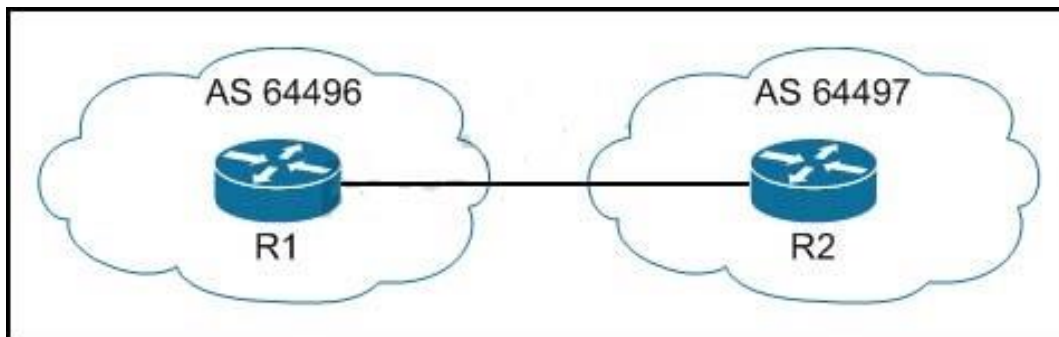
Which two statements about DHCP snooping are true? (Choose two.)

- A. It is implemented on a per-VLAN basis.
- B. It filters invalid DHCP messages.
- C. The binding database logs trusted and untrusted hosts with leased IP addresses.
- D. Interfaces are trusted by default.
- E. It uses the LFIB to validate requests from untrusted hosts.

**Answer: AB**

#### QUESTION 828

Refer to the exhibit. Which BGP feature allows R1 to instruct R2 which prefixes it is allowed to advertise to R1?



- A. route refresh
- B. Prefix-Based Outbound Route Filtering
- C. distribute lists
- D. prefix lists

**Answer: B**

**QUESTION 829**

Which technology facilitates dynamic tunnel establishment in DMVPN?

- A. CEF
- B. mGRE
- C. a dynamic routing protocol
- D. NHRP

**Answer: D**

**QUESTION 830**

Which two statements about SNMP are true? (Choose two.)

- A. SNMPv3 provides privacy and access control.
- B. All SNMP versions use get, getNext, and getBulk operations.
- C. SNMPv3 uses encrypted community strings.
- D. SNMPv1 and SNMPv2c use plaintext community strings.
- E. All SNMP versions support bulk retrieval and detailed error messages.

**Answer: AB**

**QUESTION 831**

Which two statements about route summarization are true? (Choose two.)

- A. RIP, IGRP, and EIGRP can automatically summarize routing information at network address boundaries.
- B. EIGRP can automatically summarize external routes.
- C. The area range command can aggregate addresses on the ASBR.
- D. The summary-address command under the router process configures manual summarization on RIPv2 devices.
- E. The ip classless command enables classful protocols to select a default route to an unknown subnet on a network with other known subnets.

**Answer: AE**

**QUESTION 832**

Which two message types allow PIM snooping to forward multicast traffic? (Choose two.)

- A. hello messages
- B. leave messages
- C. membership query messages
- D. bidirectional PIM DF election messages

**Answer: AD**

**QUESTION 833**

Which feature of Cisco IOS XE Software allows for platform-independent code abstraction?



- A. its security
- B. Common Management Enabling Technology
- C. the Linux-based environment
- D. its modularity

**Answer: D**

**QUESTION 834**

Which statement about the VLAN database is true?

- A. Manually deleting the vlan.dat file can cause inconsistency in the database.
- B. Private VLAN information is stored in the database.
- C. VLAN configurations 1 through 4096 are stored in the vlan.dat file.
- D. The VLAN database is used only if the VTP domain name in the VLAN database matches the VTP domain name in the startup-config file.

**Answer: A**

**QUESTION 835**

In an STP domain, which two statements are true for a nonroot switch, when it receives a configuration BPDU from the root bridge with the TC bit set? (Choose two.)

- A. It sets the MAC table aging time to max\_age time.
- B. It sets the MAC table aging time to forward\_delay time.
- C. It recalculates the STP topology upon receiving topology change notification from the root switch.
- D. It does not recalculate the STP topology upon receiving topology change notification from the root switch.

**Answer: BD**

**QUESTION 836**

Which two statements about OSPF default route injection are true? (Choose two.)

- A. The ABR requires manual configuration to send a default route into an NSSA area.
- B. The ABR injects a default route into a Totally Stub Area.
- C. In a stub area, the ASBR generates a summary LSA with link-state ID 0.0.0.0.
- D. If the default route is missing from the routing table, the ASBR can use the default-information originate command to advertise the default into the OSPF domain.
- E. By default, OSPF normal areas will generate default routes into the routing domain if a default route exists.

**Answer: AB**

**QUESTION 837**

Refer to the exhibit. While reviewing a log file on a router with this NTP configuration, you note that the log entries of the router display a different time than the NTP time.

```
clock timezone EST -5
clock summer-time EDT recurring
service timestamps debug datetime
service timestamps log datetime
logging buffered 5000 debugging
ntp clock-period 17179272
ntp server 10.181.23.23
```

Which action can you take to correct the problem?

- A. Add the localtime keyword to the service timestamps log datetime statement.
- B. Add the msec keyword to the service timestamps log datetime statement.
- C. Add the statement ntp broadcast to the NTP configuration of the neighboring router.
- D. Configure the router to be the NTP master.
- E. Remove the datetime keyword from the service timestamps log datetime statement.

**Answer:** A

**QUESTION 838**

What are the three variants of NTPv4? (Choose three.)

- A. client/server
- B. broadcast
- C. symmetric
- D. multicast
- E. asymmetric
- F. unicast

**Answer:** ABC

**QUESTION 839**

Which two options are mandatory components of a multiprotocol BGP VPN-IPv4 address? (Choose two.)

- A. a system ID
- B. a route target
- C. a route distinguisher
- D. an MPLS label
- E. an area ID
- F. an IPv4 address

**Answer:** CF

**QUESTION 840**

Which two statements about ERSPAN are true? (Choose two.)

- A. It supports jumbo frames of up to 9202 bytes.
- B. It adds a 50-byte header to copied Layer 2 Ethernet frames.

- C. It supports packet fragmentation and reassembles the packets.
- D. It adds a 4-byte header to copied Layer 2 Ethernet frames.
- E. Source sessions on an individual switch can use different origin IP addresses.

**Answer:** AB

**QUESTION 841**

Which two statements about PBR route maps are true? (Choose two.)

- A. They can use extended ACLs to identify traffic.
- B. They can route unicast traffic without interface-level classification.
- C. They can be applied to both ingress and egress traffic.
- D. They can classify traffic based on prefix-lists.
- E. They can set the metric and IP precedence bits.

**Answer:** AB

**QUESTION 842**

Which three events can cause a control plane to become overwhelmed? (Choose three.)

- A. a worm attack
- B. processing a stream of jumbo packets
- C. a microburst
- D. a configuration error
- E. a reconvergence failure
- F. a device-generated FTP session

**Answer:** ADE

**QUESTION 843**

Which three statements are true about unicast RPF? (Choose three.)

- A. Unicast RPF requires CEF to be enabled.
- B. Unicast RPF strict mode works better with multihomed networks.
- C. Unicast RPF strict mode supports symmetric paths.
- D. Unicast RPF strict mode supports asymmetric paths.
- E. CEF is optional with Unicast RPF, but when CEF is enabled it provides better performance.
- F. Unicast RPF loose mode is typically used with ISP networks.

**Answer:** ACF

**QUESTION 844**

What are three benefits of deploying NAT with ALG? (Choose three.)

- A. the use of dynamic ephemeral ports through a firewall
- B. the synchronization of translations between multiple streams of data
- C. the use of deep packet inspection
- D. the use of static ephemeral ports through a firewall

- E. the conversion of session layer addresses from the application payload to outside global addresses
- F. NAT traversal to support asymmetric data sessions

**Answer:** ABC

**QUESTION 845**

Which two statements about a network running MPLS VPN with IS-IS IGP are true? (Choose two.)

- A. IS-IS traffic engineering uses wide metric TLV type 135 with an up/down bit to define a leaked route.
- B. IS-IS traffic engineering uses wide metric TLV type 128 with an internal/external bit and an up/down bit to define a leaked route.
- C. IS-IS traffic engineering uses wide metric TLV type 130 with an internal/external bit and an up/down bit to define a leaked route.
- D. If the IS-IS up/down bit is set to 1, the leaked route originated in the L1 area.
- E. The MPLS VPN IS-IS core is inherently protected against IP-based attacks.

**Answer:** AE

**QUESTION 846**

When VRF-Lite is configured without BGP support, which statement about the configuration of the route target and route distinguisher is true?

- A. The configuration of the route target and route distinguisher is required.
- B. The configuration of the route target and route distinguisher is not required.
- C. The configuration of the route target is required and the configuration of the route distinguisher is not required.
- D. The configuration of the route target is not required and the configuration of the route distinguisher is required.

**Answer:** D

**QUESTION 847**

How does MSTP provide backward compatibility with RSTP?

- A. It uses the hop count variable as a TTL counter.
- B. It transmits all spanning-tree information in one BPDU.
- C. It supports up to 128 MSTI messages.
- D. It encodes the MSTP-specific region information before the legacy RSTP BPDU.

**Answer:** D

**QUESTION 848**

Which standard feature can be exploited by an attacker to perform network reconnaissance?

- A. IP-directed broadcast
- B. maintenance operations protocol

- C. ICMP redirects
- D. source quench

**Answer: C**

**QUESTION 849**

How are the Cisco Express Forwarding table and the FIB related to each other?

- A. The FIB is used to populate the Cisco Express Forwarding table.
- B. The Cisco Express Forwarding table allows route lookups to be forwarded to the route processor for processing before they are
- C. There can be only one FIB but multiple Cisco Express Forwarding tables on IOS devices.
- D. Cisco Express Forwarding uses a FIB to make IP destination prefix-based switching decisions.

**Answer: D**

**QUESTION 850**

Which statement about the bgp soft-reconfig-backup command is true?

- A. It requires BGP to store all inbound and outbound updates.
- B. It overrides soft reconfiguration for devices that support inbound soft reconfiguration.
- C. When the peer is unable to store updates, the updates are implemented immediately.
- D. It provides soft reconfiguration capabilities for peers that are unable to support route refresh.
- E. It provides outbound soft reconfiguration for peers.

**Answer: D**

**QUESTION 851**

What happens when an interface is configured as passive in OSPF?

- A. No OSPF neighbor ship is formed on the interface.
- B. An OSPF neighbor ship is formed with the DR, but not with the BDR.
- C. The subnet configured on the interface is not advertised to any other neighbor.
- D. OSPF hello messages are sent as unicast instead of multicast.

**Answer: A**

**QUESTION 852**

Which protocol will accept incoming updates when the passive-interface command is configured?

- A. OSPF
- B. IS-IS
- C. RIP
- D. EIGRP

**Answer: C**

**QUESTION 853**

What are the three HDLC operating modes? (Choose three.)

- A. normal response
- B. asynchronous balanced
- C. synchronous response
- D. asynchronous response
- E. normal balanced
- F. synchronous balanced

**Answer:** ABD

**QUESTION 854**

Which three statements about OSPFv3 address families are true? (Choose three.)

- A. Each address family requires the same instance ID.
- B. Address families can perform route redistribution into any IPv4 routing protocol.
- C. An address family can have two device processes on each interface.
- D. IPv4 address family require an IPv4 address to be configured on the interface,.
- E. Each address family uses a different shortest path tree.
- F. Different address families can share the same link state database.

**Answer:** BDE

**QUESTION 855**

Which BGP feature prevents a router from installing an iBGP learned route in its routing table until the route is validated within the IGP?

- A. confederation
- B. aggregation
- C. advertise-map
- D. synchronization

**Answer:** D

**QUESTION 856**

Which two statements about TCP are true? (Choose two.)

- A. TCP option must be divisible by 32.
- B. It has a 16-bit window size.
- C. Its maximum data offset is fifteen 32-bit words.
- D. It has a 32-bit window size.
- E. Its maximum data offset is ten 32-bit words.
- F. It has a 32-bit checksum field.

**Answer:** BC

**QUESTION 857**

Which EEM event detector is triggered by hardware installation or removal?



- A. Enhanced-Object-Tracking Event Detector
- B. Resource Event Detector
- C. OIR Event Detector
- D. CLI Event Detector

**Answer: C**

**QUESTION 858**

What are the two requirements for BGP to install a classful network into the BGP routing table?(Choose two)

- A. The AS contains the entire classfull network.
- B. A classful network statement with a lower administrative distance is in the routing table.
- C. Auto-summary is enabled.
- D. A classful network statement with a classful mask is in the routing table.
- E. Synchronization is enabled.
- F. Synchronization is disabled.

**Answer: CD**

**QUESTION 859**

Independent, multiple OSPF processes are entered on the same router, and the processes have the same destination route. Which OSPF process is used?

- A. The route with the fewest hops is used.
- B. Both processes are used to load balance the traffic.
- C. The first route process that places a route into the routing table is used.
- D. The route with the shortest prefix is used.

**Answer: C**

**QUESTION 860**

Which two statements about MPLS VPNs are true? (Choose two.)

- A. PE routers maintain customer routes in the VPN for that customer.
- B. They use the explicit-null label by default.
- C. P routers are used only for label transit.
- D. P routers maintain customer routes in the VPN for that customer.
- E. They support only one route target.
- F. Each interface on a PE router must have its own VRF.

**Answer: AC**

**QUESTION 861**

Which three statements about IPsec VTIs are true? (Choose three.)

- A. IPsec sessions require static mapping to a physical interface.

- B. They can send and receive multicast traffic.
- C. They can send and receive traffic over multiple paths.
- D. They support IP routing and ACLs.
- E. They can send and receive unicast traffic.
- F. They support stateful failover.

**Answer:** BDE

**QUESTION 862**

Which three values can you use to configure an ERSPAN destination session? (Choose three.)

- A. VLAN ID
- B. source IP address
- C. destination IP address
- D. ID number
- E. VRF
- F. session name

**Answer:** BDE

**QUESTION 863**

In IPv6 Path MTU Discovery, which ICMP message is sent by an intermediary router that requires a smaller MTU?

- A. Time Exceeded, with code 1 (fragment reassembly time exceeded)
- B. Packet Too Big
- C. Destination Unreachable, with code 4 (the datagram is too big)
- D. Multicast Termination Router

**Answer:** B

**QUESTION 864**

Which two operating modes does VPLS support? (Choose two.)

- A. transport mode
- B. strict mode
- C. port mode
- D. loose mode
- E. VLAN mode
- F. dynamic mode

**Answer:** CE

**QUESTION 865**

Which IPv6 tunneling mechanism requires a service provider to use one of its own native IPv6 blocks to guarantee that its IPv6 hosts will be reachable?

- A. 6rd tunneling

- B. automatic 6to4 tunneling
- C. NAT-PT tunneling
- D. ISATAP tunneling
- E. manual ipv6ip tunneling
- F. automatic 4to6 tunneling

**Answer: A**

**QUESTION 867**

Which two discovery mechanism does LDP support? (Choose two.)

- A. strict
- B. extended
- C. loose
- D. targeted
- E. basic

**Answer: BE**

**QUESTION 868**

On a network using RIPng, the prefix field of a routing table entry has a value of 0:0:0:0:0:0:0:0. What does this value signify?

- A. The next hop address is unknown.
- B. The next hop address is a site-local address.
- C. The neighboring router has IPv6 ND disabled.
- D. The next hop address must be the originator of the route advertisement.
- E. The associated route follows a default route out of the network.

**Answer: E**

**QUESTION 869**

Which AS\_PATH attribute can you use to prevent loops when implementing BGP confederations?

- A. AS\_CONFED\_SET
- B. AS\_SEQUENCE
- C. AS\_CONFED\_SEQUENCE
- D. AS\_SET

**Answer: C**

**QUESTION 870**

Which two statements about OSPF are true? (Choose two.)

- A. External type 2 routes are preferred over interarea routes.
- B. Intra-area routes are preferred over interarea routes.
- C. External type 1 routes are preferred over external type 2 routes.

- D. External type 1 routes are preferred over intra-area routes.
- E. External type 2 routes are preferred over external type 1 routes.

**Answer:** BC

#### **QUESTION 871**

Which two statements about the OSPF two-way neighbor state are true? (Choose two.)

- A. Each neighbor receives its own router ID in a hello packet from the other neighbor.
- B. Each neighbor receives a hello message from the other neighbor.
- C. It is valid only on NBMA networks.
- D. It is valid only on point-to-point networks.
- E. Each neighbor receives an acknowledgement of its own hello packet from the other neighbor.
- F. Each neighbor receives the router ID of the other neighbor in a hello packet from the other neighbor.

**Answer:** AE

#### **QUESTION 872**

Which two options are differences between TACACS+ and RADIUS using AAA? (Choose two.)

- A. Only TACACS+ limits the protocols that are supported.
- B. Only RADIUS combines accounting and authentication.
- C. Only TACACS+ uses TCP.
- D. Only RADIUS combines authorization and accounting.
- E. Only RADIUS encrypts the password in packets from the client to the server. But leaves the body of the message unencrypted.

**Answer:** CE

#### **QUESTION 873**

Which three responses can a remote RADIUS server return to a client? (Choose three.)

- A. Reject-Challenge
- B. Access-Reject
- C. Accept-Confirmed
- D. Access-Accept
- E. Access-Challenge
- F. Reject-Access

**Answer:** BDE

#### **QUESTION 874**

Which two statements about device access control are true? (Choose two.)

- A. The AUX port is displayed as type tty in the output of the show line command.
- B. VTY lines are associated with physical interfaces on a network device.
- C. MPP restricts device-management access to interfaces that are configured under the control

plane host configuration.

- D. The enable password command sets an MD5 one-way encrypted password.
- E. The console port supports hardware flow control

**Answer:** CE

**QUESTION 875**

In the DiffServ model, which class represents the highest priority with the lowest drop probability?  
(\*)

- A. AF13
- B. AF43
- C. AF11
- D. AF41

**Answer:** D

**QUESTION 876**

Which statement about traffic management when PIM snooping is enabled is true?

- A. Traffic is restricted to host ports.
- B. All multicast traffic is flooded to the designated router.
- C. Join message are flooded to all routers.
- D. Designated routers receive traffic only from groups through which a join message is received.

**Answer:** D

**QUESTION 877**

Which two statements about the passive-interface command are true? (Choose two.)

- A. A RIP router listens to multicast updates from its neighbor but stops sending multicast updates on the passive interface.
- B. In OSPF, configuring passive-interface at the interface level suppresses hello packets for the interface and all sub interfaces.
- C. An EIGRP router can form neighbor relationship on the passive interface, but incoming and outgoing multicast updates are disabled on the interface.
- D. A RIP router disables all incoming and outgoing multicast updates in the passive interface.
- E. In EIGRP, the passive interface stops sending hello packets.
- F. In OSPF, the passive interface can receive incoming routing updates and update the device routing table.

**Answer:** AE

**QUESTION 878**

Which component of MPLS architecture uses protocols such as the label distribution protocol and tag distribution protocol to exchange labels?

- A. control plane
- B. data plane

- C. forwarding plane
- D. routing plane

**Answer: A**

**QUESTION 879**

Which two methods can you use to limit the range for EIGRP queries? (Choose two.)

- A. Use an access list to deny the multicast address 224.0.0.1 outbound from select EIGRP neighbor and permit everything else.
- B. Configure route tagging for all EIGRP routes.
- C. Summarize routes at the boundary routers of the EIGRP domain.
- D. Configure unicast EIGRP on all routers in the EIGRP domain.
- E. Configure stub routers in the EIGRP domain.
- F. Use an access list to deny the multicast address 224.0.0.10 outbound from select EIGRP neighbors and permit everything else.

**Answer: CE**

**QUESTION 880**

Which two best practices does Cisco recommend to migrate a network from PVST+ to MST? (Choose two.)

- A. Start the migration at the edge nodes and work toward the root bridge.
- B. Before starting the transition, configure one of the edge nodes with a lower priority so that it becomes the root bridge after the transition.
- C. Before starting the transition, ensure that at least two nodes act as the root bridge for all VLANs in the network.
- D. Start the migration at the root bridge and work toward the edge nodes.
- E. Before starting the transition, configure one of the edge nodes with a higher priority so that it becomes the root bridge after the transition.
- F. Before starting the transition, ensure that one node is the root bridge for all VLANs in the network.

**Answer: AF**

**QUESTION 881**

Which two statements best describes the difference between active mode monitoring and passive mode monitoring? (Choose two.)

- A. Active mode monitoring is the act of Cisco PfR gathering information on user packets assembled into flows by NetFlow.
- B. Active mode monitoring uses IP SLA probes for obtaining performance characteristics of the current exit WAN link.
- C. Passive mode monitoring uses IP SLA to generate probes for the purpose of obtaining information regarding the characteristics of the WAN links.
- D. Passive mode monitoring uses NetFlow for obtaining performance characteristics of the exit WAN links.

**Answer: BD**



**QUESTION 882**

Refer to the exhibit. Which two route types are advertised by a router with this configuration?  
(Choose two.)

```
router eigrp 1

network 10.0.0.0

eigrp stub
```

- A. connected
- B. external
- C. summary
- D. static
- E. redistributed

**Answer:** AC

**QUESTION 883**

Refer to the exhibit. Which two statements about this egress queue are true? (Choose two.)

```
Switch#
Switch#show running-config | section qos
mls qos queue-set output 1 threshold 1 25 25 100 150
mls qos queue-set output 1 buffers 30 30 20 20
Switch#
Switch#
Switch#show mls qos queue-set 1
Queueset: 1
Queue : 1 2 3 4

buffers : 30 30 20 20
threshold1: 25 100 100 100
threshold2: 25 100 100 100
reserved : 100 50 50 50
maximum : 150 400 400 400
Switch#
```

- A. The queue 3 buffer is allocated 20 percent, its drop threshold is 100 percent, and it is guaranteed 400 percent of memory.
- B. The queue 1 buffer is allocated 30 percent, its drop threshold is 25 percent, and it is guaranteed 100 percent of memory.
- C. The queue 1 buffer is allocated 30 percent, its drop threshold is 100 percent, and it is guaranteed

- 150 percent of memory.
- D. The queue 2 buffer is allocated 30 percent, its drop threshold is 200 percent, and it can use at maximum 400 percent of memory.
- E. The queue 3 buffer is allocated 30 percent, its drop threshold is 100 percent, and it can use at maximum 400 percent of memory.

**Answer:** BD

**QUESTION 884**

Which two statements about the function of PIM designated router are true? (Choose two.)

- A. It registers directly connected source to the PIM rendezvous point.
- B. It sends PIM asserts on the interface of the outgoing interface list.
- C. It sends PIM Join/Prune messages for directly connected receivers.
- D. It forwards multicast traffic from the source into the PIM network.
- E. It sends IGMP queries.

**Answer:** AC

**QUESTION 885**

Refer to exhibit. The router is unreachable using telnet. Which option is solution?

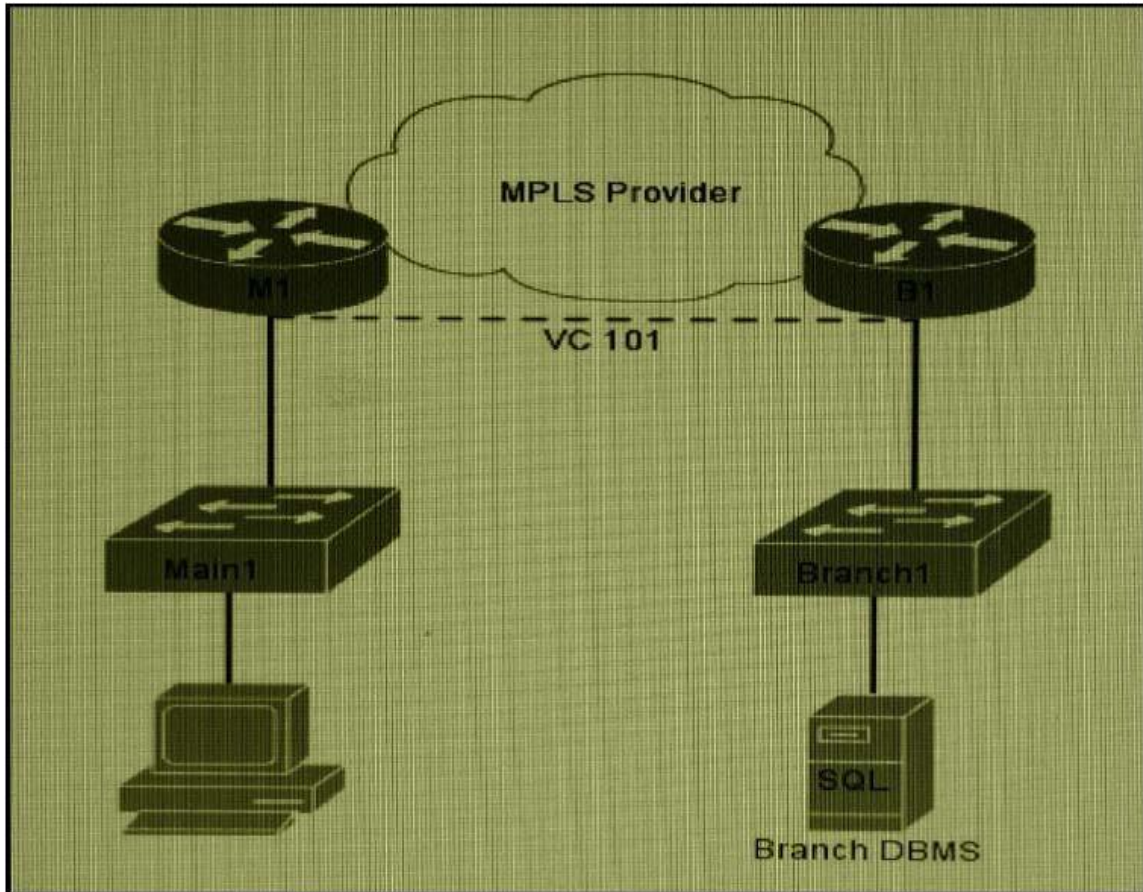
```
vrf definition MGMT
 rd 1:1
 address-family ipv4
 !
 interface GigabitEthernet0/0
 vrf forwarding MGMT
 ip address 192.168.0.1 255.255.255.0
 !
 ip access-list standard MGMT
 permit any
 !
 line vty 0 4
 access-class MGMT in
 transport input telnet
 transport output none
```

- A. Use an extended access list instead of standard access list.
- B. The transport output telnet command must be added.
- C. The VRF configuration must be completed.
- D. The "vrf-also" keyword must be added to the access-class configuration.

**Answer:** D

**QUESTION 886**

Refer to the exhibit. The Main1 and Branch1 switches are connected directly over an MPLS pseudowire, and both run UDLD. After router B1 reloads because of a power failure, the pseudowire is restored. However, the Branch1 switch is unable to reach the Main1 switch. Which two actions can you take to restore connectivity and prevent the problem from recurring? (Choose two.)



- A. Configure a backup pseudowire between the Main1 and Branch1 switches.
- B. Enable UDLD recovery on both the Main1 and Branch1 switches.
- C. Configure a backup GRE tunnel between the Main1 and Branch1 switches.
- D. Enable errdisable recovery on both the Main1 and Branch1 switches.
- E. Issue the shutdown and no shutdown commands on both the Branch1 switch's uplink to the B1 router and the Main1 switch's uplink to the M1 router.
- F. Issue the shutdown and no shutdown commands on the Branch1 switch uplink to the B1 router only.

**Answer:** DF

#### QUESTION 887

Drag and Drop Question

Drag and drop the SNMP element on the left to the corresponding definition on the right.

|          |                                  |
|----------|----------------------------------|
| Response | an exchange of MIB data          |
| Set      | a reply to a request             |
| Trap     | a reply by a manager to an agent |
| Inform   | an unsolicited message           |

**Answer:**

|          |          |
|----------|----------|
| Response | Inform   |
| Set      | Response |
| Trap     | Set      |
| Inform   | Trap     |

### QUESTION 888

Drag and Drop Question

Drag and drop Layer 2 QoS Commands on the left to the corresponding functions on the right.

|                         |                                                       |
|-------------------------|-------------------------------------------------------|
| wrr-queue bandwidth     | assigns a queue                                       |
| wrr-queue cos-map       | assigns a 6-bit value                                 |
| wrr-queue dscp-map      | sets drop values for both the send and receive queues |
| wrr-queue limit         | sets queue weights                                    |
| wrr-queue random-detect | sets the minimum and maximum WRED threshold           |
| wrr-queue threshold     | sets the queue-size ratio                             |

**Answer:**



|                         |                         |
|-------------------------|-------------------------|
| wrr-queue bandwidth     | wrr-queue cos-map       |
| wrr-queue cos-map       | wrr-queue dscp-map      |
| wrr-queue dscp-map      | wrr-queue threshold     |
| wrr-queue limit         | wrr-queue bandwidth     |
| wrr-queue random-detect | wrr-queue random-detect |
| wrr-queue threshold     | wrr-queue limit         |

**QUESTION 889**

In which order of magnitude (time) is delay/latency measured when you use wide metrics in EIGRP?

- A. tens of microseconds
- B. picoseconds
- C. nanoseconds
- D. microseconds

**Answer: B**

**QUESTION 890**

Which statement about the BGP synchronization rule is true?

- A. A BGP router with synchronization enabled does not advertise its iBGP learned routes to its iBGP peers unless it has learned or verified this route on its routing table through an IGP.
- B. A BGP router with synchronization enabled does not advertise its eBGP learned routes to its iBGP peers unless it has learned or verified this route on its routing table through an IGP.
- C. A BGP router with synchronization enabled does not advertise its eBGP learned routes to its eBGP peers unless it has learned or verified this route on its routing table through an IGP.
- D. A BGP router with synchronization enabled does not advertise its iBGP learned routes to its eBGP peers unless it has learned or verified this route on its routing table through an IGP.

**Answer: D**

**QUESTION 891**

Which tunnel type can be used with encryption to provide security for IPv6 over IPv4?

- A. 6RD
- B. 6to4
- C. ISATAP

- D. IPv4-compatible
- E. GRE

**Answer:** E

**QUESTION 892**

Which QoS mechanism is used to implement CoPP?

- A. RSVP
- B. rate limiting
- C. FIFO
- D. MQC

**Answer:** D

**QUESTION 893**

Which two statements about RIPng are true? (Choose two.)

- A. IPv6 can support as many as 8 equal-cost routes.
- B. IPv6 can support as many as 32 equal-cost routes.
- C. A route with a metric of 15 is advertised as unreachable.
- D. Both inbound and outbound route filtering can be implemented on a single interface.
- E. 16 is the maximum metric it can advertise.

**Answer:** DE

**QUESTION 894**

Which statement about the EIGRP SRTT is true?

- A. It is the average time that it takes for a reliable packet to be acknowledged.
- B. It is six times the RTO.
- C. It is the time that it takes for an update to be received by a peer.
- D. It is the time it takes to receive a reply to a query.

**Answer:** A

**QUESTION 895**

Which three statements are true about the spanning-tree loop guard feature? (Choose three.)

- A. Loop guard affects UplinkFast operation.
- B. Loop guard can be enabled on PortFast ports.
- C. Loop guard operation is not affected by the spanning-tree timers.
- D. Loop guard must be enabled on point-to-point link only.
- E. Loop guard cannot be enabled on a switch that also has root guard enabled.
- F. Loop guard can detect a unidirectional link.

**Answer:** CDE



**QUESTION 896**

Which attribute enables BGP confederation to prevent loops?

- A. ATOMIC\_AGGREGATE
- B. ORIGIN
- C. NEXT\_HOP
- D. AS-PATH

**Answer: D**

**QUESTION 897**

Which three statements are true for a network with 10 switches and 126 segments? (Choose three.)

- A. It has 10 designated ports.
- B. It has 63 designated ports.
- C. It has 10 root ports.
- D. It has 9 root ports.
- E. It has 126 designated ports.
- F. It has only one root bridge.

**Answer: DEF**

**QUESTION 898**

In a Catalyst 6500 VSS setup, what is the function of RRP?

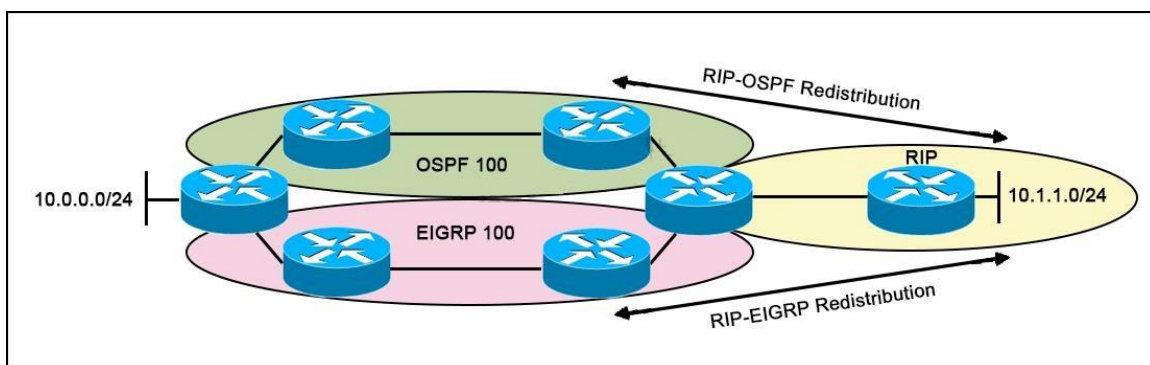
- A. It determines link integrity and rejects any unidirectional links.
- B. It determines which chassis becomes active and which chassis becomes standby.
- C. It determines which links in an Ether Channel forward traffic.
- D. It prepares the configuration file and brings up the VSL interfaces.

**Answer: B**

**QUESTION 899**

Refer to the exhibit. Assume that the distances are set to default.

Which statement about how the 10.0.0.0 network will reach the 10.1.1.0/24 network is true?



- A. A routing loop will occur.

- B. Packets will be load balanced.
- C. The path through OSPF will be used.
- D. The path through EIGRP will be used.

**Answer: C**

**QUESTION 900**

Refer to the exhibit. Prefix 192.168.1.0/31 is currently two-way ECMP. How can you make Ethernet0/0 the preferred path?

```
R1#sho ip route 192.168.1.0 255.255.255.254
Routing entry for 192.168.1.0/31
 Known via "ospf 1", distance 110, metric 20, type intra area
 Last update from 192.168.1.2 on Ethernet0/0, 00:06:03 ago
 Routing Descriptor Blocks:
 * 192.168.1.4, from 2.2.2.2, 00:31:07 ago, via Ethernet1/0
 Route metric is 20, traffic share count is 1
 192.168.1.2, from 1.1.1.1, 00:06:03 ago, via Ethernet0/0
 Route metric is 20, traffic share count is 1
```

- A. Increase the OSPF cost of Ethernet1/0 so that the OSPF cost is higher on Ethernet1/0 than on Ethernet0/0.
- B. Increase the bandwidth of Ethernet1/0 so that it has a higher bandwidth than Ethernet0/0.
- C. Increase the OSPF cost of Ethernet0/0 so that the OSPF cost is higher on Ethernet1/0 than on Ethernet0/0.
- D. Log in to the router that is connected to Ethernet0/0 and lower the OSPF cost on the interface that is connected to Ethernet0/0.

**Answer: A**

**QUESTION 901**

Refer to the exhibit. The OSPF adjacency between two routers cannot be established. What is the root cause of the problem?

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Open Shortest Path First<br><input type="checkbox"/> OSPF Header<br>Version: 2<br>Message Type: Hello Packet (1)<br>Packet Length: 44<br>Source OSPF Router: 10.155.255.1 (10.155.255.1)<br>Area ID: 0.0.0.10 (0.0.0.10)<br>Checksum: 0x0000 (None)<br>Auth Type: Cryptographic (2)<br>Auth Crypt Key id: 121<br>Auth Crypt Data Length: 16<br>Auth Crypt Sequence Number: 1421584632<br>Auth Crypt Data: 589382284493a1312be3511bdf6673cd<br><input type="checkbox"/> OSPF Hello Packet<br>Network Mask: 255.255.255.0 (255.255.255.0)<br>Hello Interval [sec]: 10<br><input type="checkbox"/> Options: 0x12 (L, E)<br>0... .. = DN: Not set<br>..0... .. = O: Not set<br>..0... .. = DC: Demand Circuits are NOT supported<br>...1... .. = L: The packet contains LLS data block<br>...0... .. = NP: NSSA is NOT supported<br>....0.. .. = MC: NOT Multicast Capable<br>....1.. .. = E : External Routing Capability<br>....0.. .. = MT: NO Multi-Topology Routing<br>Router Priority: 1<br>Router Dead Interval [sec]: 40<br>Designated Router: 10.155.135.1 (10.155.135.1)<br>Backup Designated Router: 0.0.0.0 (0.0.0.0)<br><input type="checkbox"/> OSPF LLS Data Block | <input type="checkbox"/> Open Shortest Path First<br><input type="checkbox"/> OSPF Header<br>Version: 2<br>Message Type: Hello Packet (1)<br>Packet Length: 44<br>Source OSPF Router: 10.155.255.2 (10.155.255.2)<br>Area ID: 0.0.0.10 (0.0.0.10)<br>Checksum: 0x0000 (None)<br>Auth Type: Cryptographic (2)<br>Auth Crypt Key id: 121<br>Auth Crypt Data Length: 16<br>Auth Crypt Sequence Number: 1421584519<br>Auth Crypt Data: e135d573c8e2f5e89cd336e80cccf398<br><input type="checkbox"/> OSPF Hello Packet<br>Network Mask: 255.255.255.0 (255.255.255.0)<br>Hello Interval [sec]: 10<br><input type="checkbox"/> Options: 0x18 (L, NP)<br>0... .. = DN: Not set<br>..0... .. = O: Not set<br>..0... .. = DC: Demand Circuits are NOT supported<br>...1... .. = L: The packet contains LLS data block<br>...1... .. = NP: NSSA is supported<br>....0.. .. = MC: NOT Multicast Capable<br>....0.. .. = E : NO External Routing Capability<br>....0.. .. = MT: NO Multi-Topology Routing<br>Router Priority: 10<br>Router Dead Interval [sec]: 40<br>Designated Router: 10.155.135.2 (10.155.135.2)<br>Backup Designated Router: 0.0.0.0 (0.0.0.0)<br><input type="checkbox"/> OSPF LLS Data Block |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- A. Both routers are designated routers.
- B. different area ID
- C. mismatched OSPF network types
- D. authentication error
- E. area type mismatch

**Answer: E**

#### QUESTION 902

If MPLS label packets are swapped, what happens to the TTL value?

- A. It is preserved.
- B. It is set to 255.
- C. It is decremented.
- D. It is set to zero.

**Answer: C**

#### QUESTION 903

Which encapsulation is used when deploying EIGRP OTP?

- A. GRE
- B. LISP
- C. PPP
- D. dot1q
- E. MPLS
- F. ISL

**Answer: B**

#### QUESTION 904

What is the minimum link MTU value for IPv6?

- A. 68 bytes
- B. 1200 bytes
- C. 500 bytes
- D. 1280 bytes

**Answer: D**

#### **QUESTION 905**

Which two statements about VRF-lite are true? (Choose two)

- A. It can increase the packet switching rate.
- B. It supports most routing protocols, including EIGRP, ISIS, and OSPF.
- C. It supports MPLS-VRF label exchange and labeled packets.
- D. It should be used when a customer's router is connected to an ISP over OSPF.
- E. It can support multiple customers on a single switch.

**Answer: DE**

#### **QUESTION 906**

Which two statements about BFD operation are true? (Choose two)

- A. It can detect and bypass failed peers.
- B. It supports asynchronous mode.
- C. It detects failure in the forwarding path between routers over a long duration.
- D. It supports fast peer failure detection independently of the routing protocol.
- E. It provides a high-overhead, short-duration method of detecting path failures.

**Answer: BD**

#### **QUESTION 907**

Which routing protocol is used on PE routers to exchange VPNv4 routes?

- A. EIGRP
- B. OSPF
- C. MP-BGP
- D. OSPFv3

**Answer: C**

#### **QUESTION 908**

Which two statements about Cisco IOS software and Cisco IOS-XE software are true? (Choose two)

- A. The process IOSd on Cisco IOS-XE software runs all routing protocols.
- B. Cisco IOS-XE software is based on a monolithic architecture.
- C. Cisco IOS software allows processes to use different CPU cores.

- D. Cisco IOS-XE software uses a hardened BSD version as the base OS.
- E. Cisco IOS-XE software utilizes a separate control and forwarding plane.

**Answer:** AE

**QUESTION 909**

Refer to the exhibit. A TCP application in class APP1 is guaranteed bandwidth as shown in the exhibit. A UDP-based application is introduced that is also running the DSCP AF31 markings.

```
class-map match-all APP1
 match ip dscp af31
!
!
policy-map PROTECT_APPS
 class APP1
 bandwidth 2000
!
```

Which option describes what happens when link congestion occurs and both applications need more bandwidth as guaranteed by the bandwidth statement?

- A. UDP dominance occurs, which causes the TCP-based application in class APP1 to underperform.
- B. Both applications receive a bandwidth of 2 Mb/s and are best effort within the class APP1.
- C. There is no impact when the UDP-based application is introduced.
- D. Both applications receive a bandwidth of 2 Kb/s and are best effort within the class APP1.

**Answer:** A

**QUESTION 910**

Which two options describe the effect of configuring an interface as passive under OSPF?  
(Choose two)

- A. An adjacency cannot be established, and the interface is not included in the routing protocol update.
- B. The interface processes OSPF hello packets but does not send hello packets.
- C. An adjacency cannot be established, and the interface is included in the routing protocol update.
- D. The interface processes OSPF hello packets and also sends hello packets.
- E. An adjacency can be established, and the interface is not included in the routing protocol update.

**Answer:** BC

**QUESTION 911**

Which feature can be used to block traffic from one host to another within one VLAN on a Layer 2 switch?

- A. port security
- B. dot1x
- C. access list
- D. protected ports

**Answer: D**

### QUESTION 912

Refer to the exhibit. Why is interface loopback 0 of R4 missing in the BGP table of R2?

```

hostname R2
|
router ospf 1
network 0.0.0.0 255.255.255.255 area 0
|
router bgp 65001
no synchronization
bgp cluster-id 3.3.3.3
network 2.2.2.0 mask 255.255.255.0
neighbor 10.1.12.1 remote-as 65105
neighbor 10.1.23.3 remote-as 65001
no auto-summary

```

```

hostname R3
|
router ospf 1
network 0.0.0.0 255.255.255.255 area 0
|
router bgp 65001
no synchronization
network 3.3.3.0 mask 255.255.255.0
neighbor 10.1.23.2 remote-as 65001
neighbor 10.1.34.4 remote-as 65001
neighbor 10.1.34.4 route-reflector-client
no auto-summary

```

```

hostname R4
|
router ospf 1
network 0.0.0.0 255.255.255.255 area 0
|
router bgp 65001
no synchronization
network 4.4.4.0 mask 255.255.255.0
neighbor 10.1.34.3 remote-as 65001
neighbor 10.1.45.5 remote-as 65105
no auto-summary

```

```

R2#sh ip bgp
BGP table version is 20, local router ID is 2.2.2.2
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
 r RIB-failure, S Stale
Origin codes: I - IGP, e - EGP, ? - incomplete

 Network Next Hop Metric LocPrf Weight Path
*> 1.1.1.0/24 10.1.12.1 0 0 65105 1
*> 2.2.2.0/24 0.0.0.0 0 0 32768 1
*>13.3.3.0/24 10.1.23.3 0 100 0 1

```

- A. R2 is not configured as a route reflector client.
- B. The route is originating in the same cluster list.
- C. The route originated within the same AS.
- D. The next hop is not reachable from R2.

**Answer: A**

### QUESTION 913

Which two statements about static route configuration are true? (Choose two)

- A. They add to the number of routes in the routing table.
- B. The distance command modifies the administrative distance



- C. The redistribute static command will redistribute classful networks into OSPF.
- D. They add significant overhead to the router CPU.
- E. The ip route static bfd command is used for BFD peer discovery.
- F. The permanent key word allows the route to remain in the route table if the interface goes down.

**Answer:** CF

**QUESTION 914**

Which three statements about dot1Q trunking are true? (Choose three)

- A. A trunk port can be a tunnel port.
- B. The default switchport mode is dynamic desirable.
- C. A trunk port can be a secure port.
- D. Trunk ports negotiate encapsulation by default.
- E. Enabling 802.1x on a trunk port results in an error.
- F. The default switchport mode is dynamic auto.

**Answer:** AEF

**QUESTION 915**

Which three topologies are standardized by the Metro Ethernet Forum? (Choose three)

- A. E-LAN
- B. VPWS
- C. E-Tree
- D. E-Line
- E. NPE
- F. PNNI

**Answer:** ACD

**QUESTION 916**

What are two requirements for BFD static route support? (Choose two)

- A. CEF must be configured on all routers that will carry traffic.
- B. BFD must be configured on all Ethernet, virtual-template, and dialer interfaces that will carry traffic.
- C. All routers that will carry traffic must have the same software version.
- D. All routers that will carry traffic must be the same model.
- E. Parameters must be configured on all routers that will carry traffic.
- F. Parameters must be configured on all interfaces that will carry traffic.

**Answer:** AF

**QUESTION 917**

Which two statements about marking fields are true? (Choose two)

- A. The IP Precedence field is in the IP header and is 4 bits long.

- B. The Frame Relay DE field is in the IP header and is 1 bit long.
- C. The 3 priority bits are in 802.1Q/P.
- D. The IP DSCP field is in the IP header and is 6 bits long.
- E. The ToS 6 bits are in the IP header.

**Answer:** CD

**QUESTION 918**

Which three options describe characteristics of a link state routing protocol? (Choose three)

- A. It uses cost in the metric calculation to determine the best path.
- B. It uses hop count in the metric calculation to determine the best path.
- C. It provides faster convergence as opposed to distance vector routing protocols.
- D. It is better in detecting suboptimal routing.
- E. It is topology driven and has an overall overview of the network.
- F. It only has a neighbor routing table.

**Answer:** ACE

**QUESTION 919**

Refer to the exhibit. When attempting to use Telnet to connect to 192.168.5.5, you received the given error message. Which configuration change is most likely to correct the problem?

```
ABC-1#telnet 192.168.5.5.
% telnet connections not permitted from this terminal
```

- A. Remove protocol filtering on 192.168.5.5
- B. Configure the VTY lines to allow Telnet as a transport output.
- C. Configure ACL on the control plane interface of ABC-1, to allow TCP connections to port 21.
- D. Configure the VTY lines to allow Telnet as a transport input.
- E. Configure the AUX port to allow Telnet as a transport output.

**Answer:** B

**QUESTION 920**

Which three features are supported by PIMv6? (Choose three)

- A. embedded RP
- B. MSDP
- C. Auto-RP
- D. sparse mode
- E. SSM
- F. dense mode

**Answer:** ADE

**QUESTION 921**

How is traffic directed to a 6RD tunnel interface from the native IPv6 Internet?

- A. Traffic is routed to the 6RD gateway of the ISP and encapsulated over IPv4 to the tunnel interface.
- B. Traffic is sent encapsulated in IPv4 from the native IPv6 host directly to the tunnel interface.
- C. Traffic is routed to the nearest public gateway and encapsulated over IPv4 to the tunnel interface.
- D. Traffic is routed to the nearest public relay and encapsulated over IPv4 to the tunnel interface.

**Answer: C**

**QUESTION 922**

Which function does PHP perform?

- A. popping the top label one hop before the egress LSR
- B. popping the top label at the egress LSR
- C. popping the bottom label one hop before the egress LSR
- D. popping the bottom label at the egress LSR
- E. popping the two topmost labels one hop before the egress LSR
- F. popping the two bottommost labels one hop before the egress LSR

**Answer: A**

**QUESTION 923**

Which packet is sent out by the DIS in IS-IS?

- A. LSP
- B. PSNP
- C. CSNP
- D. LSDB

**Answer: C**

**QUESTION 924**

Refer to the exhibit. Which statement is true?

```
P#show ip route multicast
```

```
Routing Table: multicast
```

```
10.0.0.0/8 is variably subnetted, 8 subnets, 2 masks
C 10.1.1.0/24 is directly connected, Ethernet1/0
L 10.1.1.4/32 is directly connected, Ethernet1/0
L 10.1.2.4/32 is directly connected, Ethernet2/0
L 10.1.3.4/32 is directly connected, Ethernet3/0
O + 10.100.1.1/32 [110/11] via 10.1.1.1, 00:02:56, Ethernet1/0
O + 10.100.1.2/32 [110/11] via 10.1.2.2, 00:02:56, Ethernet2/0
O + 10.100.1.3/32 [110/11] via 10.1.3.3, 00:02:56, Ethernet3/0
C 10.100.1.4/32 is directly connected, Loopback0
```

- A. The "+" indicates that the routes will be removed after a times expires.
- B. The "+" indicates that the routes were added through multicast static route.

- C. The "+" indicates that the routes are replicated routes from the unicast RIB.
- D. The "+" indicates that the routes are SAFI 2 routes.

**Answer:** C

**QUESTION 925**

Which three actions can you take to mitigate excessive unicast packet flooding? (Choose three)

- A. Configure a switchport for trunking mode.
- B. Enable spanning tree portfast.
- C. Configure storm control.
- D. Configure switchport blocking.
- E. Create a native VLAN.
- F. Configure a switchport for protected mode.

**Answer:** BCD

**QUESTION 926**

Refer to the exhibit. Which option describes how a device with this configuration applies traffic matching?

```
R2(config)#class-map match qos
R2(config-cmap)#match access-group 8
R2(config-cmap)#match dscp EF
```

- A. It matches traffic in ACL 8 that has a DSCP marking of EF.
- B. It matches all traffic that has QoS markings.
- C. It matches all traffic in ACL 8 and all traffic that has a DSCP marking of EF.
- D. It matches all traffic that has a DSCP marking of EF.
- E. It matches all traffic in ACL 8.

**Answer:** A

**QUESTION 927**

Which information does RA guard use to determine if an RA is allowed?

- A. a trusted binding-table database generated from RS messages.
- B. information output from IPv6 snooping.
- C. a trusted binding-table database generated from ND messages.
- D. manually configured trust sources.

**Answer:** D

**QUESTION 928**

Which two statements are true about DAI? (Choose two)

- A. A valid binding in the database takes precedence over an ARP ACL.
- B. The switch intercepts and checks ARP traffic on trusted and untrusted ports.
- C. DAI uses the ARP table to determine the validity of the IP to MAC bindings.
- D. DAI ensures that only valid ARP requests and responses are relayed.
- E. DAI uses the DHCP snooping binding database to determine the validity of the IP to MAC bindings.

**Answer:** DE

**QUESTION 929**

What are the minimum requirements for Cisco PfR to provide routing control?

- A. one master controller, two border routers, two internal interfaces, and two external interfaces.
- B. one master controller, one border router, one internal interface, and two external interfaces.
- C. one master controller, two border router, one internal interface, and one external interface.
- D. one master controller, one border router, two internal interfaces, and one external interface.
- E. two master controllers, one border router, one internal interface, and one external interface.

**Answer:** B

**QUESTION 930**

Which GET VPN component maintains security policies?

- A. group member
- B. CE
- C. P
- D. key server
- E. PE
- F. GDOI

**Answer:** D

**QUESTION 931**

Which enhancement does IGMP version 3 offer over IGMP version 2?

- A. support for Source Specific Multicast
- B. a mechanism to decrease leave latency
- C. authentication of multicast streams
- D. backward compatibility with IGMP version 1

**Answer:** A

**QUESTION 932**

Which two statements about VPLS are true? (Choose two)

- A. The service provider provisions CE devices.
- B. It transmits broadcast traffic more efficiently than Ethernet switches.
- C. It uses broadcast replication to transmit Ethernet packets with multicast MAC addresses.

- D. It enables CE devices to operate as part of an L3 VPN.
- E. It enables CE devices on different networks to operate as if they were in the same LAN.
- F. It enables PE and CE devices to operate as if they were routing neighbors.

**Answer:** CE

**QUESTION 933**

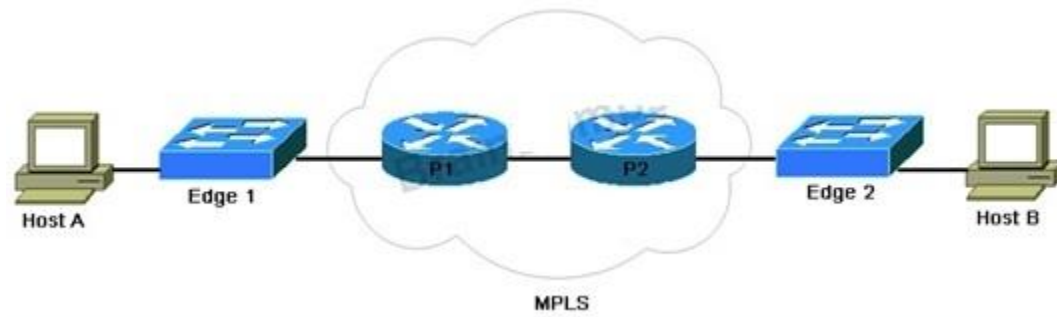
What is the default IS-IS interface metric on a Cisco router?

- A. 128
- B. 64
- C. 10
- D. 255

**Answer:** C

**QUESTION 934**

Refer to the exhibit. Which two technologies allow the Host MAC address to be visible to Host A? (Choose two)



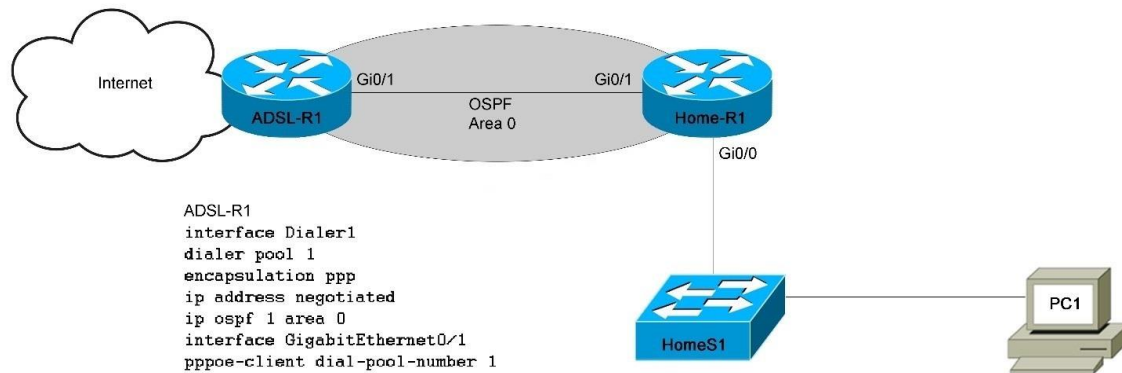
- A. L2TPv3
- B. AToM
- C. MPLS Layer 3 VPN
- D. GRE tunneling
- E. LISP tunneling
- F. 802.3ad

**Answer:** AB

**QUESTION 935**

Refer to the exhibit. The PC is experiencing intermittent connectivity failures to the internet. If ADSL-R1 uses a PPPoE connection, what action can you take to correct the problem?





- A. Configure the same OSPF process on HomeR1 and HomeS1.
- B. Configure an MTU of 1492 on the dialer interface on ADSL-R1.
- C. Configure OSPF on the connection between PC1 and HomeS1.
- D. Configure a system MTU of 1512 on ADSL-R1.
- E. Replace the dialer interface with a virtual template.

**Answer: B**

### QUESTION 936

Refer to the exhibit. Which kind of ICMPv6 packet is shown in the output?

```

Ethernet II, Src: D-Link_ac:fe:56 (00:50:ba:ac:fe:56), Dst: IPv6-Neighbor-Discovery_ff:84:18:d9 (33:33:ff:84:18:d9)
 Destination: IPv6-Neighbor-Discovery_ff:84:18:d9 (33:33:ff:84:18:d9)
 Address: IPv6-Neighbor-Discovery_ff:84:18:d9 (33:33:ff:84:18:d9)
 1 = Multicast: This is a MULTICAST frame
 1. = Locally Administrated Address: This is NOT a factory default address
 Source: D-Link_ac:fe:56 (00:50:ba:ac:fe:56)
 Address: D-Link_ac:fe:56 (00:50:ba:ac:fe:56)
 0 = Multicast: This is a UNICAST frame
 0. = Locally Administrated Address: This is a FACTORY DEFAULT address
 Type: IPv6 (0x86dd)
Internet Protocol Version 6
 Version: 6
 Traffic class: 0x00
 Flowlabel: 0x00000
 Payload length: 32
 Next header: ICMPv6 (0x3a)
 Hop limit: 255
 Source address: fe80::250:baff:feac:fe56
 Destination address: ff02::1:ff84:18d9
Internet Control Message Protocol v6
 Type: 135
 Code: 0
 Checksum: 0xc92d [correct]
 Target: fe80::20e:cff:fe84:18d9
 ICMPv6 options
 Type: 1 (Source link-layer address)
 Length: 8 bytes (1)
 Link-layer address: 00:50:ba:ac:fe:56

```

- A. neighbor advertisement
- B. neighbor solicitation
- C. router discovery
- D. time exceeded
- E. router advertisement

**Answer: B**

**QUESTION 937**

Which statement is true about PIM?

- A. PIM SM uses shared trees.
- B. In Bidir-PIM, sources register to RP as in PM SM.
- C. The PIM DM flood and prune process is repeated every five minutes.
- D. PIM SM mode, by default, always forwards multicast traffic on shared tree.

**Answer: A**

**QUESTION 938**

Which two statements are true about control plane policing? (Choose two.)

- A. Control plane policing will affect only traffic that is destined to the route processor.
- B. Access lists that are used in policies for control plane policing must not use the log keyword.
- C. Access lists that use the deny rule in control plane policing do not progress to the next class.
- D. The log keyword can be used but the log-input keyword must not be used in policing.

**Answer: AB**

**QUESTION 939**

Which two security risks can occur with PMTUD? (Choose two)

- A. An attacker can block valid Datagram Too small messages, to cause a DDos.
- B. An attacker can block valid Datagram Too small messages, to cause a Dos.
- C. An attacker can slow data flow by sending false messages that indicate that the PMTU is significantly smaller than the true PMTU.
- D. An attacker can cause data lost by sending false messages that indicate that the PMTU is significantly smaller than the true PMTU.
- E. An attacker can cause data lost by sending false messages that indicate that the PMTU is significantly larger than the true PMTU.
- F. An attacker can slow data flow by sending false messages that indicate that the PMTU is significantly larger than the true PMTU.

**Answer: BD**

**QUESTION 940**

Which three statements about BGP soft reconfiguration are true?

- A. Outbound soft reconfiguration stores an additional copy of the routes advertised to a neighbor before routing policies take effect.
- B. Inbound soft reconfiguration stores an additional copy of the routes received from a neighbor before routing policies take effect.
- C. Outbound soft reconfiguration requires additional configuration on the BGP neighbor.
- D. Inbound soft reconfiguration requires additional configuration on the BGP neighbor.
- E. Outbound soft reconfiguration requires additional memory.
- F. Inbound soft reconfiguration requires additional memory.

**Answer: BDF**

**QUESTION 941**

Which option describes the purpose of the `no ip next-hop-self eigrp` configuration line in DMVPN deployment?

- A. It allows the spoke routers to change the next hop value when sending EIGRP updates to the hub router.
- B. It enables EIGRP to dynamically assign the next hop value based on the EIGRP database.
- C. It preserves the original next hop value as learned by the spoke routers.
- D. It preserves the original next hop value as learned by the hub routers.
- E. It allows the spoke routers to change the next hop value when sending EIGRP updates to the spoke router.

**Answer: C**

**QUESTION 942**

Which option describes the effect of the command `ip route vrf DMZ 192.168.0.0 255.255.0.0 172.16.5.5 global`?

- A. It creates a static route in the global routing table for 192.168.0.0 255.255.0.0, and the next hop is in the VRF DMZ.
- B. It creates a static route in the global routing table for 192.168.0.0 255.255.0.0 and the next hop is in the global routing table.
- C. It creates a static default route in the VRF DMZ; and the next hop is in the global routing table.
- D. It creates a static route in the VRF DMZ for 192.168.0.0 255.255.0.0, and the next hop is in the VRF DMZ.
- E. It creates a static route in the VRF DMZ for 192.168.0.0 255.255.0.0, and the next hop is in the global routing table.

**Answer: E**

**QUESTION 943**

Which two statements about private VLAN communications are true? (Choose two)

- A. Primary VLAN traffic is passed across trunk interfaces.
- B. Isolated ports communicate with other isolated ports.
- C. Promiscuous ports communicate with all other ports.
- D. Promiscuous ports connect only to routers.

**Answer: AC**

**QUESTION 944**

What are the two Cisco recommended methods for reducing the size of the TCAM on a Layer 3 switch?

- A. Use the `ip route profile` command.
- B. Adjust the output queue buffers.
- C. Filter unwanted routes.
- D. Optimize the SDM template.

E. Use summary routes.

**Answer:** CE

**QUESTION 945**

You are performing a system diagnostics on a CSU in local loop mode and notice that the mineseen counter has failed to increment. Which type of problem does this behavior indicate?

- A. a cabling problem
- B. an encoding problem
- C. a framing problem
- D. a timing problem

**Answer:** D

**QUESTION 946**

Refer to the exhibit. Which two statements about the device configuration are true? (Choose two)

```
Router#show management-interface
Management interface GigabitEthernet0/1
 Protocol Packets processed
 Ssh 983
 Snmp 1275
```

- A. The device has control-plane protection enabled.
- B. The device implicitly allows Telnet connections.
- C. The GigabitEthernet0/1 interface of the device allows incoming SSH and SNMP connections.
- D. The device has management-plane protection enabled.
- E. The device allows SSH connections to its loopback interface.

**Answer:** CD

**QUESTION 947**

Which three fields are present in the IPv6 header? (Choose three)

- A. Next Header
- B. Traffic Class
- C. Options
- D. Time to Live
- E. Flags
- F. Flow Label

**Answer:** ABF

**QUESTION 948**

Refer to the exhibit. Which two statements can this output verify? (Choose two)

```
EIGRP-IPv4 neighbors for process 99
H Address Interface Hold Uptime SRTT RTO 0 Seq
 (sec) (ms) Cnt Num
0 192.168.252.8 Gi1/13 14 00:00:28 1 200 0 5
Restart time 00:00:24
Version 12.2/3.0, Retrans: 1, Retries: 0
Topology-ids from peer - 0
```

- A. The device will wait 200 ms before retransmitting an EIGRP packet.
- B. The device must receive an EIGRP packet within 24 seconds to maintain a neighbor relationship.
- C. The EIGRP neighbor has been up for 28 seconds.
- D. The device must receive an EIGRP packet within 28 seconds to maintain a neighbor relationship.
- E. The device will tear down and restart its EIGRP process in 24 seconds.
- F. The EIGRP neighbor has been up for 28 ms.

**Answer:** AC

#### QUESTION 949

Which two methods does Cisco IOS XE use to implement separation between the data plane and control plane? (Choose two)

- A. the FED
- B. a Linux-based CPU scheduler to efficiently manage the control and data planes.
- C. separates FFM-spawned subshells in the Linux kernels for the control plane and the data plane.
- D. a set of APIs to manage data plane processes
- E. a set of APIs to manage control plane processes

**Answer:** AE

#### QUESTION 950

Which two configuration options are available for PIM snooping? (Choose two)

- A. on a specific interface on the device
- B. under the SVI for the corresponding VLAN
- C. on a range of interfaces on the device
- D. under the VLAN in VLAN configuration mode
- E. globally on the device

**Answer:** BE

#### QUESTION 951

Which statement best describes IPv6 RA Guard?

- A. It redirects authorized device hello messages.
- B. It filters authorized IPv6 device advertisements on a link.
- C. It blocks unexpected IPv6 router announcements on a link.
- D. It validates ingress hello messages on a port.

**Answer: C**

**QUESTION 952**

Which two options are restrictions of BGP ORF? (Choose two)

- A. It can be used only with IPv4 multicast.
- B. It requires access lists to match routes.
- C. It can be used only with eBGP.
- D. Multicast is not supported.
- E. It can be used only with iBGP.

**Answer: CD**

**QUESTION 953**

Which two statements about PIM snooping are true? (Choose two)

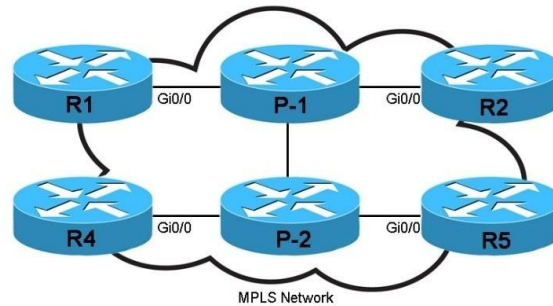
- A. It floods join and prune messages on all router ports.
- B. It requires designated forwarder election messages.
- C. When PIM snooping is enabled, the switch allows all multicast packets for each IP multicast group to send multicast packets to multicast router.
- D. It requires RGMP to be enabled on the VLAN.
- E. It requires IGMP snooping to be enabled on the switch.
- F. The ip pirn snooping command is an interface-level command.

**Answer: BE**

**QUESTION 954**

Refer to the exhibit. Which two options are two problems that can occur with this configuration? (Choose two)





```
R1
ip access-list standard LOOPBACK-ONLY
 permit 172.16.1.0 0.0.0.255
interface loopback0
 ip address 172.16.1.1 255.255.255.255
interface GigabitEthernet0/0
 ip address 10.0.0.1 255.255.255.0
 load-interval 30
 mpls ip
router ospf 1
 router-id 172.16.1.1
 network 10.0.0.1 0.0.0.0 area 0
 network 172.16.1.1 0.0.0.0 area 0
mpls ldp neighbor 172.16.99.1 password cisco
mpls ldp discovery targeted-hello accept
mpls ldp advertise-labels for LOOPBACK-ONLY
```

```
R5
ip access-list standard LOOPBACK-ONLY
 permit 172.16.1.0 0.0.0.255
 permit 10.0.0.0 0.255.255.255
int loopback0
 ip address 172.16.99.1 255.255.255.255
interface GigabitEthernet0/0
 ip address 10.0.0.2 255.255.255.0
 load-interval 30
 mpls ip
router ospf 1
 router-id 172.16.99.1
 network 10.0.0.1 0.0.0.0 area 0
 network 172.16.99.1 0.0.0.0 area 0
mpls ldp neighbor 172.16.1.1 password cisco
mpls ldp discovery targeted-hello accept
mpls ldp advertise-labels for LOOPBACK-ONLY
```

- A. The MPLS path from R1 to R5 becomes unreachable.
- B. R1 and R5 are unable to establish an LDP relationship.
- C. The label for the R1 loopback address is filtered from other MPLS routers.
- D. The label for the R5 loopback address is filtered from other MPLS routers.
- E. MPLS traffic from R1 to R5 takes a suboptimal path.

**Answer:** AD

#### QUESTION 955

Which statement about Type-4 LSA in OSPFv2 is true?

- A. It is present only in the backbone area.
- B. It is generated by each ABR and forwarded in non-stub areas.
- C. It is forwarded in NSSA areas.
- D. It is generated by the ASBR and forwarded throughout the whole OSPF domain.

**Answer:** B

#### QUESTION 956

Which two statements about OSPF route filtering are true? (Choose two)

- A. It can be based on the source router ID.
- B. It can be based on the external route tag.
- C. It affects LSA flooding.

- D. It can be based on the as-path.
- E. It can be based on distance.

**Answer: AB**

#### QUESTION 957

Refer to the exhibit. Which statement about the R3 network environment is true?

```
R3#sho ip route
Gateway of last resort is not set

10.0.0.0/8 is variably subnetted, 7 subnets, 2 masks
O 10.12.12.0/24 [110/2] via 10.32.32.2, 00:02:44, FastEthernet2/1
O E2 10.14.14.0/24 [10/20] via 10.32.32.2, 00:01:47, FastEthernet2/1
C 10.23.23.0/24 is directly connected, FastEthernet0/0
I 10.23.23.3/32 is directly connected, FastEthernet0/0
C 10.32.32.0/24 is directly connected, FastEthernet2/1
I 10.32.32.3/32 is directly connected, FastEthernet2/1
O 10.42.42.0/24 [110/2] via 10.32.32.2, 00:03:16, FastEthernet2/1

172.16.0.0/16 is variably subnetted, 14 subnets, 2 masks
O 172.16.1.1/32 [110/3] via 10.32.32.2, 00:02:34, FastEthernet2/1
R 172.16.2.0/24 [120/1] via 10.32.32.2, 00:00:25, FastEthernet2/1
 [120/1] via 10.23.23.2, 00:00:28, FastEthernet0/0
O 172.16.2.2/32 [110/2] via 10.32.32.2, 00:03:16, FastEthernet2/1
C 172.16.3.0/24 is directly connected, Loopback30
I 172.16.3.3/32 is directly connected, Loopback30
O 172.16.4.4/32 [110/3] via 10.32.32.2, 00:03:16, FastEthernet2/1
O 172.16.10.1/32 [110/3] via 10.32.32.2, 00:02:34, FastEthernet2/1
O 172.16.14.4/32 [110/3] via 10.32.32.2, 00:03:16, FastEthernet2/1
O E2 172.16.20.0/24 [10/20] via 10.32.32.2, 00:01:47, FastEthernet2/1
C 172.16.23.0/24 is directly connected, Loopback10
O 172.16.23.2/32 [110/2] via 10.32.32.2, 00:03:16, FastEthernet2/1
I 172.16.23.3/32 is directly connected, Loopback10
C 172.16.32.0/24 is directly connected, Loopback20
I 172.16.32.3/32 is directly connected, Loopback20
```

- A. 172.1.20.0/24 has an administrative distance of 20.
- B. RIP, OSPF and IS-IS are running.
- C. OSPF external routes are preferred over OSPF internal routes.
- D. The administrative distance for 172.16.X.X addresses is 110.

**Answer: C**

#### QUESTION 958

What are IPv6 addresses of the form FC00::/7 known as?

- A. unique local addresses
- B. transition addresses for 6to4
- C. link-local addresses
- D. multicast RP addresses

**Answer: A**

**QUESTION 959**

Which two statements are correct about route redistribution? (Choose two)

- A. Redistributing the entire BGP table from the Internet works well when using multiple OSPF areas.
- B. iBGP is used within the AS to carry eBGP attributes that otherwise would be lost if eBGP was redistributed into IGP.
- C. The unequal cost multipath load-balancing characteristic is lost when redistributing OSPF into EIGRP.
- D. IS-IS does not support Layer 2 routes leaking into a Layer 1 domain.
- E. Mutual redistribution at multiple points can create a routing loop.

**Answer: BE**

**QUESTION 960**

Which two conditions are required for tracking the interface IP routing state? (Choose two)

- A. A VRF must be enabled on the interface.
- B. IP routing must be disabled on the interface.
- C. Cisco Express Forwarding must be disabled on the interface.
- D. The interface line protocol must be up.
- E. A known IP address must be configured on the interface.

**Answer: DE**

**QUESTION 961**

Which two statements about asymmetric routing are true? (Choose two)

- A. It can cause packet loss over stateful ICMP and UDP connections.
- B. It can cause packet loss when a stateful firewall is in use.
- C. It can cause TCP connections to close.
- D. It can cause packet loss when NAT is in use.
- E. It is uncommon in large networks.

**Answer: BD**

**QUESTION 962**

Which two methods do IPsec VTIs use to identify and transmit encrypted traffic through the tunnel? (Choose two)

- A. object groups
- B. ACLs
- C. dynamic routing
- D. static routing
- E. NAT

**Answer: CD**

**QUESTION 963**

Which two statements about the STP dispute function are true? (Choose two)

- A. It compares the downstream port states reported in received BPDUs.
- B. The upstream switch uses received BPDUs to detect unidirectional link failures.
- C. The downstream switch uses received BPDUs to detect unidirectional link failures.
- D. When a designated port detects a conflict, it changes its role by reverting to a discarding state.

**Answer:** AB

**QUESTION 964**

What does the DIS on a LAN periodically transmit in multicast to ensure that the IS-IS link-state database is accurate?

- A. ISH
- B. CSNP
- C. IIH
- D. PSNP
- E. LIP

**Answer:** B

**QUESTION 965**

What is used to acknowledge the receipt of LSPs on a point-to-point network in IS-IS?

- A. hello
- B. CSNP
- C. PSNP
- D. IIH
- E. CSH

**Answer:** C

**QUESTION 966**

Which three technologies can be used to implement redundancy for IPv6? (Choose three)

- A. IPv6 NA
- B. NHRP
- C. HSRP
- D. DVMRP
- E. GLBP
- F. IPv6 RA

**Answer:** CEF

**QUESTION 967**

Which three values are used to generate a unique bridge ID for each VLAN in PVST+? (Choose three)

- A. port cost
- B. max age
- C. spanning-tree MAC address
- D. port priority
- E. switch priority
- F. extended system ID

**Answer:** CEF

**QUESTION 968**

When is it useful to disable split horizon on an EIGRP interface?

- A. Disable it when you want to provide additional backup paths in your network.
- B. Disable it when you want to send routes that are learned from another routing protocol to peer on the same interface.
- C. Disable it when you need to send updates to peers on the interface on which the updates were received.
- D. It is never advisable to disable split horizon on an EIGRP interface.

**Answer:** C

**QUESTION 969**

Which BGP attribute is used to influence inbound traffic?

- A. weight
- B. origin
- C. multi-exit discriminator
- D. local preference

**Answer:** C

**QUESTION 970**

Refer to the exhibit. Which two statements about this CoS mapping are true? (Choose two)

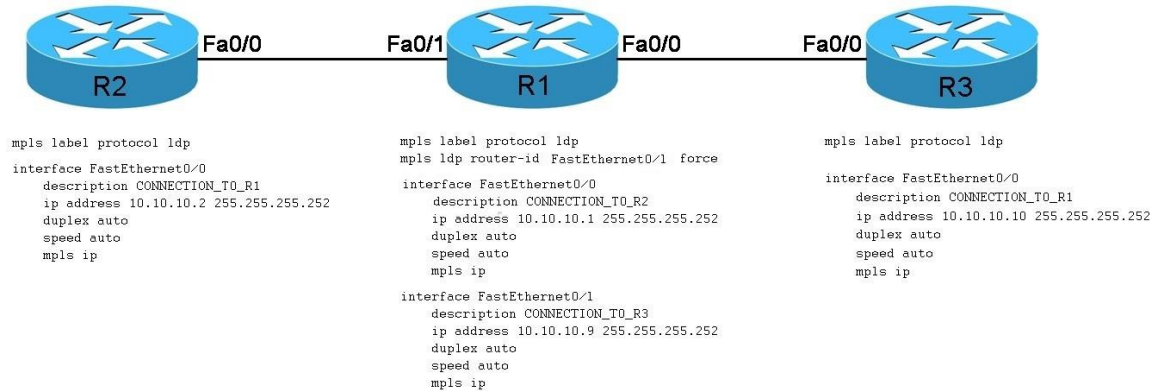
```
wrr-queue cos-map 1 2 2 3
```

- A. It maps the second queue and first threshold to CoS 2.
- B. It maps the first queue and first threshold to CoS 2 and CoS 3.
- C. It maps CoS values to the transmit queue threshold.
- D. It maps the second threshold to CoS and CoS 3.
- E. It maps the second queue and first threshold to CoS 3.

**Answer:** CD

**QUESTION 971**

Refer to the exhibit. Between which routers is an LDP session established?



- A. R1 and R3
- B. R1, R2 and R3
- C. R2 and R3
- D. R1 and R2

**Answer: D**

#### QUESTION 972

Which Cisco PfR monitoring mode is recommended for Internet edge deployments?

- A. active mode
- B. active throughput mode
- C. fast mode
- D. passive mode

**Answer: D**

#### QUESTION 973

Which IP SLA operation requires Cisco endpoints?

- A. UDP Jitter for VoIP
- B. ICMP Path Echo
- C. ICMP Echo
- D. UDP Jitter

**Answer: A**

#### QUESTION 974

Refer to the exhibit. Which two actions can you take to allow the network 172.29.224.0/24 to be reachable from peer 192.168.250.53? (Choose two)



R1

```
ip community-list 10 permit 64512:100 64512:200 645212:41650 64513:1220

route-map INTERNET-OUT permit 10
 match community 10

router bgp 64512
 no synchronization
 neighbor INTERNET peer-group
 neighbor INTERNET remote-as 64513
 neighbor INTERNET password c1sC0
 neighbor 192.168.250.53 peer-group INTERNET

address-family ipv4
 no synchronization
 neighbor INTERNET send-community both
 neighbor INTERNET route-map INTERNET-OUT out

R1#show bgp 172.29.224.0

BGP routing table entry for 172.29.224.0/24, version 607252621
Paths: (1 available, best #1, table default)
Multipath: eBGP 1BGP
 Advertised to update-groups:
 3 4 7
53739
 10.10.153.12 from 10.10.153.120 (10.10.153.12)
 Origin IGP, metric 0, localpref 130, valid, external, best
 Community: 64512:555 64513:200 64513:53090 64512:64002 64513:64090
```

- A. Modify the community list to match communities 64513:69040 attached to 172.29.224.0/24.
- B. Configure soft reconfiguration to peering 192.168.250.53.
- C. Modify the outbound route map to permit all additional traffic.
- D. Configure additional address families to peering 192.168.250.53.
- E. Modify the inbound route map to permit all additional traffic.
- F. Modify the community list to match community 64513:64090 attached to 172.29.224.0/24.

**Answer:** CF

#### QUESTION 975

Which two statements about the spanning-tree timers in a switched network are true? (Choose two)

- A. After receiving a BPDU from the root bridge, a non-root bridge waits for the hello interval before forwarding it out.
- B. The root bridge sends out a TCN every max-age interval.
- C. The root bridge sends out a configuration BPDU every hello interval.
- D. The default hello time is two seconds.

**Answer:** CD

#### QUESTION 976

Drag and Drop Question

Drag each statement about IPv6 tunneling on the left to the matching IPv6 tunneling on the right.

|                                                             |        |
|-------------------------------------------------------------|--------|
| Supports inter-site connections.                            | 6to4   |
| Supports intra-site connections.                            |        |
| The IPv4 address has a dynamic location in the IPv6 header. |        |
| The IPv4 address is embedded in the prefix.                 | ISATAP |
| Uses a modified EUI-64 format for the prefix.               |        |
| Uses flexible prefix format requirements.                   |        |
|                                                             | 6RD    |
|                                                             |        |
|                                                             |        |

**Answer:**

|                                                             |                                                             |
|-------------------------------------------------------------|-------------------------------------------------------------|
| Supports inter-site connections.                            | 6to4                                                        |
| Supports intra-site connections.                            | Supports inter-site connections.                            |
| The IPv4 address has a dynamic location in the IPv6 header. | The IPv4 address is embedded in the prefix.                 |
| The IPv4 address is embedded in the prefix.                 | ISATAP                                                      |
| Uses a modified EUI-64 format for the prefix.               | Supports intra-site connections.                            |
| Uses flexible prefix format requirements.                   | Uses a modified EUI-64 format for the prefix.               |
|                                                             | 6RD                                                         |
|                                                             | The IPv4 address has a dynamic location in the IPv6 header. |
|                                                             | Uses flexible prefix format requirements.                   |

#### QUESTION 977

Drag and Drop Question

Drag and drop the description on the left to the correct EIGRP term in the right.

|                                                                                     |                    |
|-------------------------------------------------------------------------------------|--------------------|
| reported metric to the neighbor router                                              |                    |
| best metric along a path to the destination including the metric to the neighbor    | reported distance  |
| best metric along a path to the feasible successor                                  | feasible distance  |
| path with a reported distance lower than the feasible distance                      | feasible successor |
| total metric along a path to the destination as advertised by the upstream neighbor |                    |

**Answer:**

|                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| reported metric to the neighbor router                                              | total metric along a path to the destination as advertised by the upstream neighbor |
| best metric along a path to the destination including the metric to the neighbor    | best metric along a path to the destination including the metric to the neighbor    |
| best metric along a path to the feasible successor                                  | path with a reported distance lower than the feasible distance                      |
| path with a reported distance lower than the feasible distance                      |                                                                                     |
| total metric along a path to the destination as advertised by the upstream neighbor |                                                                                     |

#### QUESTION 978

Drag and Drop Question

Drag and drop each BGP attribute on the left into the priority order in which the attributes are preferred when determining the best path on the right.

|                         |        |
|-------------------------|--------|
| highest LOCAL_PREF      | First  |
| highest WEIGHT          | Second |
| locally originated path | Third  |
| lowest MED              | Fourth |
| lowest origin type      | Fifth  |
| shortest AS_PATH        | Sixth  |

**Answer:**

|                         |                         |
|-------------------------|-------------------------|
| highest LOCAL_PREF      | highest WEIGHT          |
| highest WEIGHT          | highest LOCAL_PREF      |
| locally originated path | locally originated path |
| lowest MED              | shortest AS_PATH        |
| lowest origin type      | lowest origin type      |
| shortest AS_PATH        | lowest MED              |

#### QUESTION 979

What is the function of the rendezvous point in PIM?

- A. It acts as a shared root for a multicast tree.
- B. It is the main source of the multicast traffic.
- C. It redistributes the multicast configuration to its connected neighbors.
- D. It will redistribute the unicast routes to avoid an RPF failure.

**Answer: A**

**QUESTION 980**

What can PfR passive monitoring mode measure for UDP flows?

- A. throughput
- B. loss
- C. reachability
- D. delay

**Answer: A**

**QUESTION 981**

When do summary black holes occur in EIGRP?

- A. when the summary is removed due to the last component disappearing
- B. when a summary is created for security purposes to draw undesired traffic to a termination point
- C. when a summary is advertised that contains components that the advertising router cannot reach
- D. when components of the summary are present at multiple summary points

**Answer: C**

**QUESTION 982**

What are two pieces of information that can be transmitted via Multiprotocol BGP? (Choose two)

- A. MPLS VPN routes
- B. Level 1/Level 2 routers set the overload-bit.
- C. multicast sources
- D. IS-IS LSAs
- E. Level 2 routers set the attached bit.
- F. OSPF routes

**Answer: AC**

**QUESTION 983**

Which two statements about Cisco IOS XE are true? (Choose two)

- A. Separate images are required for platform-dependent code.
- B. Its functions run as multiple separate processes in the OS.
- C. It uses a service blade outside Cisco IOS XE to integrate and run applications.
- D. It is deployed in a Linux-based environment.
- E. The FED feature provides separation between the control plane and the data plane.

**Answer: BD**

**QUESTION 984**

Which two factors can reduce NBAR2 performance? (Choose two)

- A. queuing

- B. multiple NBAR2-enabled interfaces
- C. slow link speeds
- D. stateful protocol matches
- E. short-duration flows

**Answer:** DE

**QUESTION 985**

Which encryption algorithm is enabled by the Cisco IOS command service password-encryption ?

- A. MD5
- B. Cisco Type-5
- C. Cisco AES
- D. Cisco Type-7
- E. TKIP

**Answer:** D

**QUESTION 986**

Which two options are requirements for AToM support? (Choose two)

- A. Cisco Express Forwarding must be disabled.
- B. MPLS must be configured with an LSP in the SP core.
- C. MPLS must be enabled between the PE and CE routers.
- D. The PE routers must be able to communicate with each other over IP.
- E. IP routing must be configured between the PE and CE routers.

**Answer:** BD

**QUESTION 987**

Drag and Drop Question

Drop each eigrp packet type on the left to the matching description on the right.

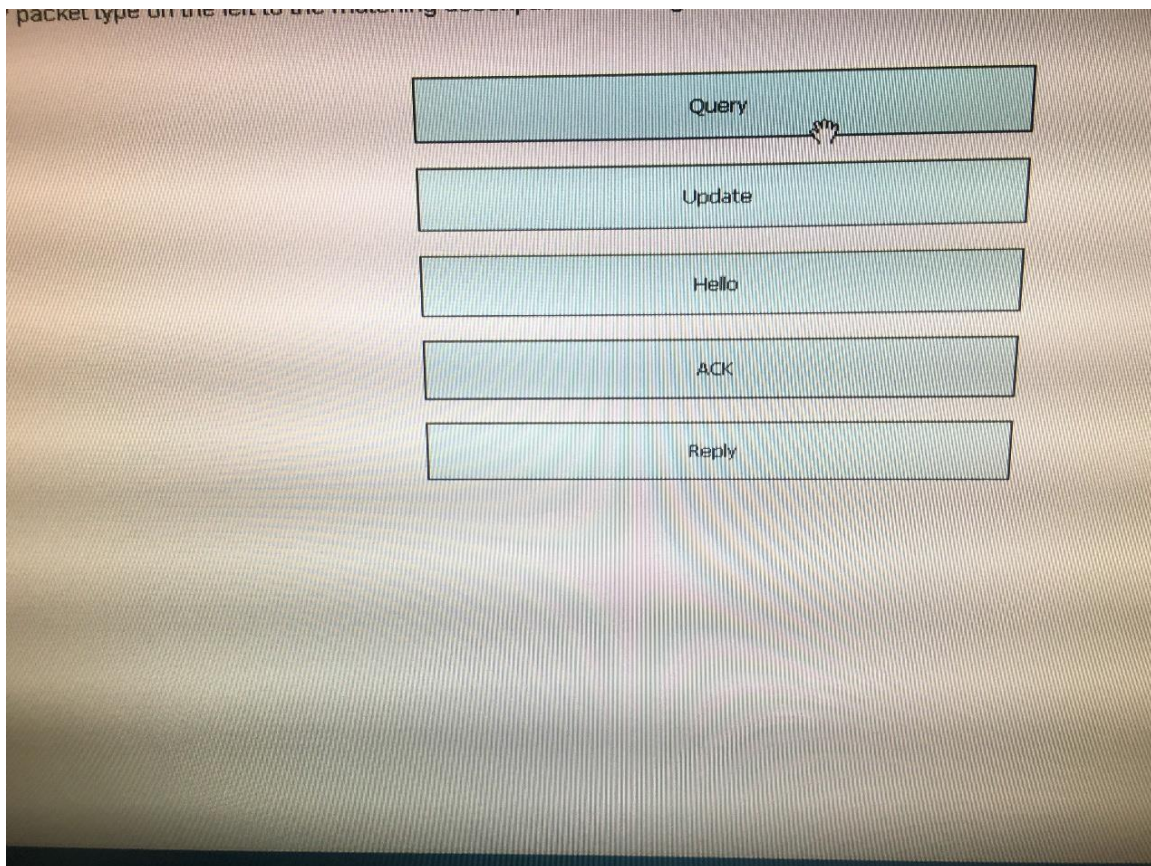


Drop each EIGRP packet type on the left to the matching description on the right.

|        |                                           |
|--------|-------------------------------------------|
| ACK    | a packet that aids fast convergence       |
| Hello  | a packet that confirms reachability       |
| Query  | a packet that is used to find neighbors   |
| Reply  | a packet without content                  |
| Update | a unicast message to acknowledge requests |

**Answer:**





**QUESTION 988**

Which three service offer VLAN transparency for WAN Ethernet services? (Choose three)

- A. ERMS
- B. EPL
- C. ERS
- D. MPLS
- E. EMS
- F. EWS

**Answer:** ABC

**QUESTION 989**

Which two values are required to implement an EIGRP named configurations? (Choose two)

- A. address-family
- B. process-id
- C. subnet-mask
- D. virtual-instance-name
- E. router-id

**Answer:** AB

**QUESTION 990**

What are the two EEM event subscribers? (Choose two)

- A. CLI
- B. script
- C. applet
- D. none
- E. syslog

**Answer:** BC

**QUESTION 991**

How is a targeted LDP session different from a standard LDP session?

- A. Targeted LDP is used only for neighbors on different segments.
- B. Targeted LDP requires SDP to be enabled.
- C. Targeted LDP requires RSVP to be enabled.
- D. Targeted LDP uses unicast hello messages to peer with other devices.

**Answer:** D

**QUESTION 992**

Which two options are valid IPV6 extension header typers? (Choose two)

- A. Flow Label
- B. Encapsulating security Payload
- C. Version
- D. Traffic Class
- E. Mobility

**Answer:** BE

**QUESTION 993**

Your NetFlow collector is not working due to a large amount of traffic entering your network which is destined to a single IP address .

Which NetFlow feature allows you to collect the top source hosts for this traffic on the local router?

- A. A NetFlow can export flows only to a external flow collector
- B. show ip cache flow
- C. ip accounting
- D. ip flow-top-talkers

**Answer:** D

**QUESTION 994**

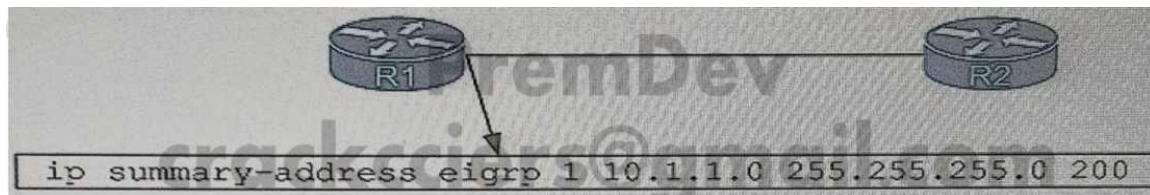
For which reason can two OSPF neighbor routers on the same LAN segment be stuck in the two-way state?

- A. The two routers have different MTUs on the interface.
- B. The two routers are configured with different priorities.
- C. The interface priority is set to zero on both routers.
- D. Both routers have the same OSPF router ID.

**Answer: C**

**QUESTION 995**

Refer to the exhibit, what is the administrative distance of prefix 10.1.1.0/24 on R2?



- A. 5
- B. 90
- C. 170
- D. 200

**Answer: D**

**QUESTION 996**

Which two statements about IGP are true? (Choose two)

- A. RIPv2 and OSPF are distance vector protocols.
- B. OSPF and EIGRP have high resource usage.
- C. IS-IS and EIGRP are link-state protocols.
- D. OSPF and IS-IS are classless protocols.
- E. RIPv2 and EIGRP support VLSM.
- F. RIPv2 and IS-IS calculate the metric of a link based on the bandwidth of a link.

**Answer: DE**

**QUESTION 997**

Which information is contained in an OSPF Type 1 Router LSA?

- A. The Autonomous System Border Routers(ASBR) for the OSPF network and the cost of the path to reach each ASBR
- B. The router's interfaces(links) on which OSPF is enabled ,the state and outgoing cost of each link.and the OSPF neighbors on each link
- C. The network links to all known OSPF routers and and the cost of each path
- D. The Area Border Routers (ABR) for the area and the cost of the path to each ABR
- E. The OSPF neighboring routers and the cost of the outgoing link to reach each neighbor

**Answer: B**

**QUESTION 998**

Which command can you enter to configure a built-in policer with minimum guaranteed bandwidth without starving other classes during periods of congestion?

- A. bandwidth remaining percent
- B. bandwidth
- C. priority percent
- D. fair-queue

**Answer: C**

**QUESTION 999**

Which three session tables does NAT64 maintain?

- A. 6rd
- B. TCP
- C. 484XLAT
- D. ICMP Query
- E. SIP
- F. UDP

**Answer: BDF**

**QUESTION 1000**

Which two statements about Cisco Express Forwarding load balancing are true?

- A. Cisco Express Forwarding can load-balance over a maximum of two destinations
- B. It combines the source IP address subnet mask to create a hash for each destination
- C. Each hash maps directly to a single entry in the RIB
- D. Each hash maps directly to a single entry in the adjacency table
- E. It combines the source and destination IP addresses to create a hash for each destination

**Answer: DE**

**QUESTION 1001**

Refer to the exhibit. How is voice traffic entering this router on interface GigabitEthernet0/0 being handled by the?



```
interface GigabitEthernet0/0
 description *** Site Backbone ***
 ip address 10.1.114.5 255.255.255.248
 service-policy input marking
!
policy-map marking
class in-voice
class in-streaming
 set ip dscp af41
 class in-time-sensitive
 set ip dscp af31
class class-default
 set ip dscp af21
!
class-map match-any in-streaming
 match access-group name streaming
 match access-group name tp-rooms
class-map match-any in-voice
 match access-group name voice
class-map match-any in-time-sensitive
 match access-group name time-sensitive
!
ip access-list extended voice
 deny ip any any fragments
 permit udp any 10.192.0.0 0.15.255.255
 permit udp 10.192.0.0 0.15.255.255 any
 permit udp any any range 51100 51140
 permit udp any range 51100 51140 any
 permit udp any range 17384 17484 any range 17384 17484
```

- A. Any traffic matching access-list voice is trusted and marking is not changed.
- B. All voice is being set to DSCP 0
- C. All voice is being set to AF21
- D. Any traffic matching access-list voice is set to EF

**Answer: A**

#### QUESTION 1002

Which two statements about IPv4 and IPv6 packet fragmentation are true? (Choose two)

- A. An IPv4 host can drop any fragments larger than 576 bytes.
- B. An IPv6 host can drop any fragments larger than 1448 bytes.
- C. The fixed header of an IPv6 packet can be fragmented.
- D. The extension headers of an IPv4 packet can be fragmented.
- E. IPv6 fragmentation is performed on all devices in the forwarding path.
- F. IPv6 fragmentation is performed only on the source of the traffic.

**Answer: AF**

#### QUESTION 1003

Which two statements about native VLANs are true? (Choose two)

- A. They require VTPv3.

- B. They are used to forward tagged traffic only.
- C. They are configured under the trunk interface
- D. They are configured in VLAN database mode.
- E. They are used to forward both tagged and untagged traffic.
- F. They are used to forward untagged traffic only.

**Answer:** CF

**QUESTION 1004**

Which feature can protect against broadcast DoS attacks?

- A. storm control
- B. DHCP snooping
- C. DAI
- D. IP Source Guard

**Answer:** A

**QUESTION 1005**

In an MPLS VPN, which router attaches VPN labels to packets?

- A. PE
- B. CE
- C. P
- D. C

**Answer:** A

**QUESTION 1006**

Refer to the exhibit, which option describes the meaning of this console message?



- A. An EIGRP hold timer has expired.
- B. FastEthernet0/0 has interface errors.
- C. An EIGRP process has been shut down.
- D. An interface has gone down.

**Answer:** A

**QUESTION 1007**

What are two requirements for NSF operation in an MPLS L3 VPN?

- A. SSO must be active
- B. Graceful restart must be configured in BGP
- C. Stateful HA must be deployed
- D. ISSU must be active



- E. The NSF must be configured for Layer 2 traffic
- F. Graceful restart must be configured in LDP

**Answer:** AF

**QUESTION 1008**

What are two differences between IPv6 ISATAP tunneling and IPv6 6to4 tunneling? (Choose two)

- A. Only ISATAP tunneling transfers unicast IPv6 packets between sites.
- B. Only 6to4 tunneling requires 2002::/16 addresses.
- C. Only ISATAP tunneling can transfer IPv6 multicast packets.
- D. Only ISATAP tunneling transfers unicast IPv6 packets within a site.
- E. Only 6to4 tunneling transfers unicast IPv6 packets within a site.

**Answer:** BD

**QUESTION 1009**

Which two statements about BGP PIC are true? (Choose two)

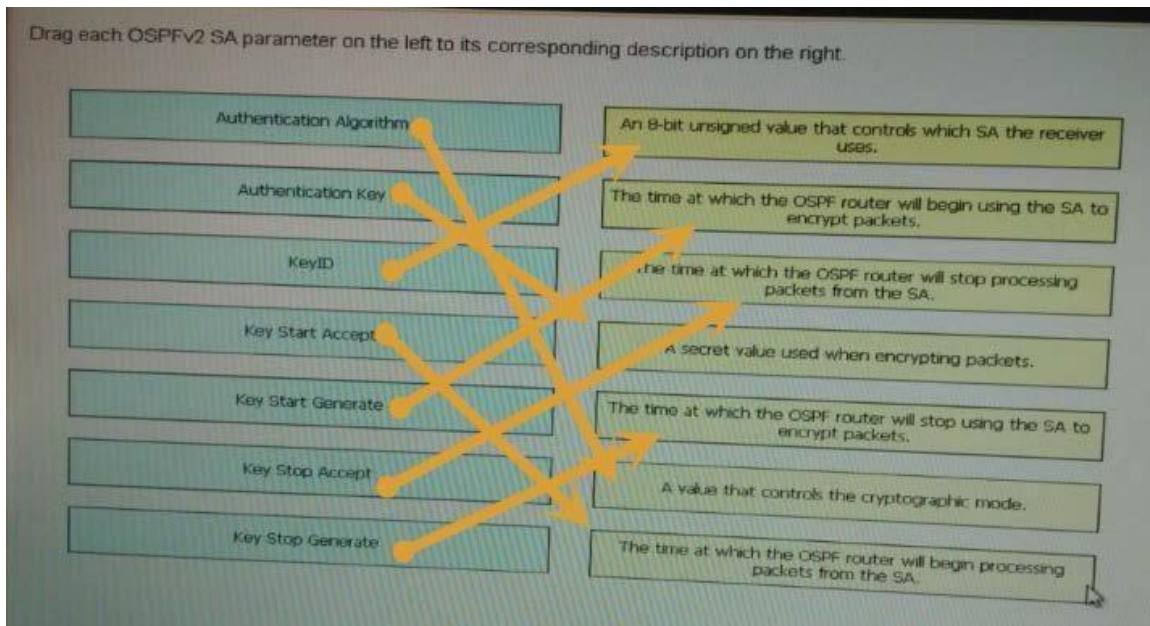
- A. PIC Core supports fast convergence with external neighbor links.
- B. It is prefix-dependent for Internet routes.
- C. When the path to a distant PE router changes, PIC is independent of the number of VRFs on the router.
- D. It achieves subsecond convergence in the BGP FIB.
- E. PIC Edge provides fast convergence when an external neighbor node fails.

**Answer:** AD

**QUESTION 1010**

Drag and Drop Question

Drag each OSPFv2 SA parameter on the left to its corresponding description on the right



**Answer:**

#### QUESTION 1011

Which encapsulation is used when deploying EIGRP OTP?

- A. GRE
- B. LISP
- C. PPP
- D. dot1q
- E. MPLS
- F. ISL

**Answer: B**

#### QUESTION 1012

Refer to the exhibit, what are three effects of this configuration (choose three )

```
ip flow-aggregation cache destination-prefix
cache entries 1024
cache timeout inactive 10
cache timeout active 2
export destination 10.3.3.4 9994
enabled

interface Ethernet0/0
ip flow ingress
```

- A. It sets the cache size large enough to process 1024 entries
- B. It sets the cache size large enough to process 1024 KB of entries
- C. It specifies version 8 export format
- D. It sets an active timeout of 2 seconds

- E. It sets an inactive timeout of 10 minutes
- F. It sets an active timeout of 2 minutes

**Answer:** ACF

#### QUESTION 1013

Refer to the exhibit. Prefix 192.168.1.0/31 is currently two-way ECMP. How can you make Ethernet0/0 the preferred path?

```
R1#sho ip route 192.168.1.0 255.255.255.254
Routing entry for 192.168.1.0/31
 Known via "ospf 1", distance 110, metric 20, type intra area
 Last update from 192.168.1.2 on Ethernet0/0, 00:06:03 ago
 Routing Descriptor Blocks:
 * 192.168.1.4, from 2.2.2.2, 00:31:07 ago, via Ethernet1/0
 Route metric is 20, traffic share count is 1
 192.168.1.2, from 1.1.1.1, 00:06:03 ago, via Ethernet0/0
 Route metric is 20, traffic share count is 1
```

- A. Increase the OSPF cost of Ethernet1/0 so that the OSPF cost is higher on Ethernet1/0 than on Ethernet0/0.
- B. Increase the bandwidth of Ethernet1/0 so that it has a higher bandwidth than Ethernet0/0.
- C. Increase the OSPF cost of Ethernet0/0 so that the OSPF cost is higher on Ethernet0/0 than on Ethernet1/0.
- D. Log in to the router that is connected to Ethernet0/0 and lower the OSPF cost on the interface that is connected to Ethernet0/0.

**Answer:** A

#### QUESTION 1014

Which three statements about automatic 6to4 tunneling are true?(choose three)

- A. It allows an IPV6 domain to be connected over an IPV4 network
- B. 6to4 tunnels are configured only in a point-point configuration
- C. It allows an IPV4 domain to be connected over an IPV6 network
- D. The IPV4 address embedded into the IPV6 address is used to find other of the tunnel
- E. The MAC address embedded into the IPV6 address is used to find the other end of the tunnel
- F. 6to4 tunnels are configured in a point-to-multipoint configuration

**Answer:** ADF

#### QUESTION 1015

What are two differences between IPv6 ISATAP tunneling and IPv6 6to4 tunneling? (Choose two)

- A. Only ISATAP tunneling transfers unicast IPv6 packets between sites.
- B. Only 6to4 tunneling requires 2002::/16 addresses.
- C. Only ISATAP tunneling can transfer IPv6 multicast packets.

- D. Only ISATAP tunneling transfers unicast IPv6 packets within a site.
- E. Only 6to4 tunneling transfers unicast IPv6 packets within a site.

**Answer:** BD

**QUESTION 1016**

Which command would enable the highest level of logging to the router's memory?

- A. Logging buffered 15
- B. Logging local 15
- C. Logging facility 15
- D. Logging buffered 7
- E. Logging facility 7
- F. Logging local 7

**Answer:** D

**QUESTION 1017**

Which option describes how the IP address is assigned when you configure a Layer 3 EtherChannel interface?

- A. You must assign the IP address to the tunnel interface.
- B. The last IP address added to the EtherChannel is used automatically.
- C. You must assign the IP address to a port channel logical interface.
- D. The first IP address added to the EtherChannel is used automatically.

**Answer:** C

**QUESTION 1018**

Which two statements about IPv4 and IPv6 packet fragmentation are true? (Choose two)

- A. An IPv4 host can drop any fragments larger than 576 bytes.
- B. An IPv6 host can drop any fragments larger than 1440 bytes.
- C. The fixed header of an IPv6 packet can be fragmented.
- D. The extension headers of an IPv4 packet can be fragmented.
- E. IPv6 fragmentation is performed on all devices in the forwarding path.
- F. IPv6 fragmentation is performed only on the source of the traffic.

**Answer:** AF

**QUESTION 1019**

What are two functions of an NSSA in an OSPF network design ?(Choose two)

- A. It overcomes issues with suboptimal routing when there are multiple exit points from the areas
- B. It uses opaque LSAs
- C. It allows ASBRs to inject external routing information into the area
- D. An ASBR advertises type 7 LSAs into the area

E. An ABR advertises type 7 LSAs into the area

**Answer:** CD

**QUESTION 1020**

How does MSTP maintain compatibility with RSTP?

- A. The system ID of an RSTP BPDU is padded with extra bytes to match the format of an MSTP BPDU.
- B. RSTP encodes region information from an MSTP BPDU into a single instance.
- C. MSTP sends all spanning-tree information in one BPDU.
- D. RSTP implements a TTL that is compatible with the MSTP max age timer.
- E. MSTP supports five port states in the same way as RSTP.

**Answer:** A

**QUESTION 1021**

Which two statements about IPsec VTIs are true? (Choose two)

- A. Dynamic VTIs allow you to mix proxy types.
- B. The dynamic VTI is a multipoint interface that can support multiple IPsec SAs.
- C. The IKE SA can be bound to both the VTI and the crypto map in the router.
- D. Static VTIs can use the "IP any any" traffic selector only.
- E. The IPsec transform set must be configured in transport mode.
- F. Static VTIs can encapsulate both IPv4 and IPv6 packets, but IPv4 can carry IPv4 packets and IPv6 can carry IPv6 packets.

**Answer:** CD

**QUESTION 1022**

What are the two BFD modes? (Choose two)

- A. active
- B. asynchronous
- C. passive
- D. established
- E. demand
- F. synchronous

**Answer:** BE

**QUESTION 1023**

Refer to the exhibit. Which option describes the purpose of the as-set argument of the aggregate-address command?

```
router bgp 64496
 no synchronization
 bgp log-neighbor-changes
 aggregate-address 10.0.0.0 255.0.0.0 as-set summary-only
 neighbor 192.168.1.2 remote-as 64497
 neighbor 192.168.2.2 remote-as 64498
 neighbor 192.168.3.2 remote-as 64499
 no auto-summary
```

- A. it provides an AS path in the aggregate advertisement that contains only the local AS number.
- B. It provides a predefined AS path in the aggregate advertisement that is used to indicate an aggregate prefix.
- C. It provides an AS path in the aggregate advertisement that includes the AS numbers of the component members.
- D. It provides a list of AS numbers to which the aggregate is advertised.

**Answer: D**

#### QUESTION 1024

Which two statements about apportioned dual-tier WAN rate-based Ethernet circuits are true? (Choose two)

- A. The service provider deploys an advanced CPE device to the subscriber, which provides enhanced Layer 3 QoS functionality.
- B. It requires the subscriber to implement egress QoS.
- C. It requires the subscriber to implement ingress QoS.
- D. The service provider deploys a simple CPE device to the subscriber, which provides fast circuit access.
- E. The service provider supports classification and queuing, while the subscriber marks and re-marks packets on ingress.
- F. It requires ingress re-marking.

**Answer: CE**

#### QUESTION 1025

Which three pieces of information are carried on OSPF type 3 LSAs? (Choose three)

- A. metric
- B. authentication type
- C. link state
- D. IP subnet
- E. external route tag
- F. subnet mask

**Answer: ACF**

#### QUESTION 1026

Which protocol do PE routers that run 6VPE use to exchange routing information?

- A. OSPFV3



- B. OSPF
- C. IS-IS
- D. MP-BGP

**Answer: D**

**QUESTION 1027**

You have been asked to connect a remote network with different DSCP mappings to the primary network of your organization. How can you configure the network devices so that the two networks work together seamlessly?

- A. Configure the mls qos trust command on the trunk ports that interconnect two networks
- B. Configure VLAN-based Qos on all switches on both networks
- C. Configure an aggregate policer on the ingres interfaces of the trunk ports that interconnect the two networks
- D. Configure a mutation map on the devices on the primary network that connect to the network

**Answer: A**

**QUESTION 1028**

Which statements about PMTUD is true?

- A. It is supported by TCP and UDP.
- B. It increases the connection's send MSS value to prevent fragmentation.
- C. GRE tunnels use PMTUD to fragment data packets by default.
- D. It is used to prevent fragmentation of packets at the endpoint of a TCP connection.
- E. It is used to prevent fragmentation of packets traveling across a smaller MTU link between

**Answer: A**

**QUESTION 1029**

When EIGRP Auto-Summary is enabled, what does Auto Summarization do in EIGRP?

- A. Summarize networks from the same network boundaries
- B. Summarizes networks form different network boundaries crossing the same major boundary
- C. Summarizes all network boundaries
- D. Summarizes networks from different network boundaries Crossing different major boundary

**Answer: D**

**QUESTION 1030**

Which two statements about the Cisco Express Forwarding glean adjacency type are true?  
(Choose two)

- A. Packets destined for the interface are discarded and the prefix is checked.
- B. The router FIB table maintains a prefix for the subnet instead of individual hosts.
- C. The adjacency database is used to [gather specific prefixes when packets are destined to a specific host.
- D. Packets destined for the interface can be dropped, which provide a form of access filtering.

E. Packets destined for the interface are discarded and the prefix check is skipped.

**Answer:** BC

**QUESTION 1031**

Which two statements about the DUID in DHCPv6 are true? (Choose two)

- A. It identifies clients to apply configuration parameters.
- B. It determines the appropriate identifier for the DHCPv6 relay agent.
- C. DUIDs are interpreted by DHCPv6 clients.
- D. DUID is carried as a DHCPv6 option.
- E. DUID is required in all DHCPv6 messages.
- F. DUID are interpreted by DHCPv6 Servers

**Answer:** CD

**QUESTION 1032**

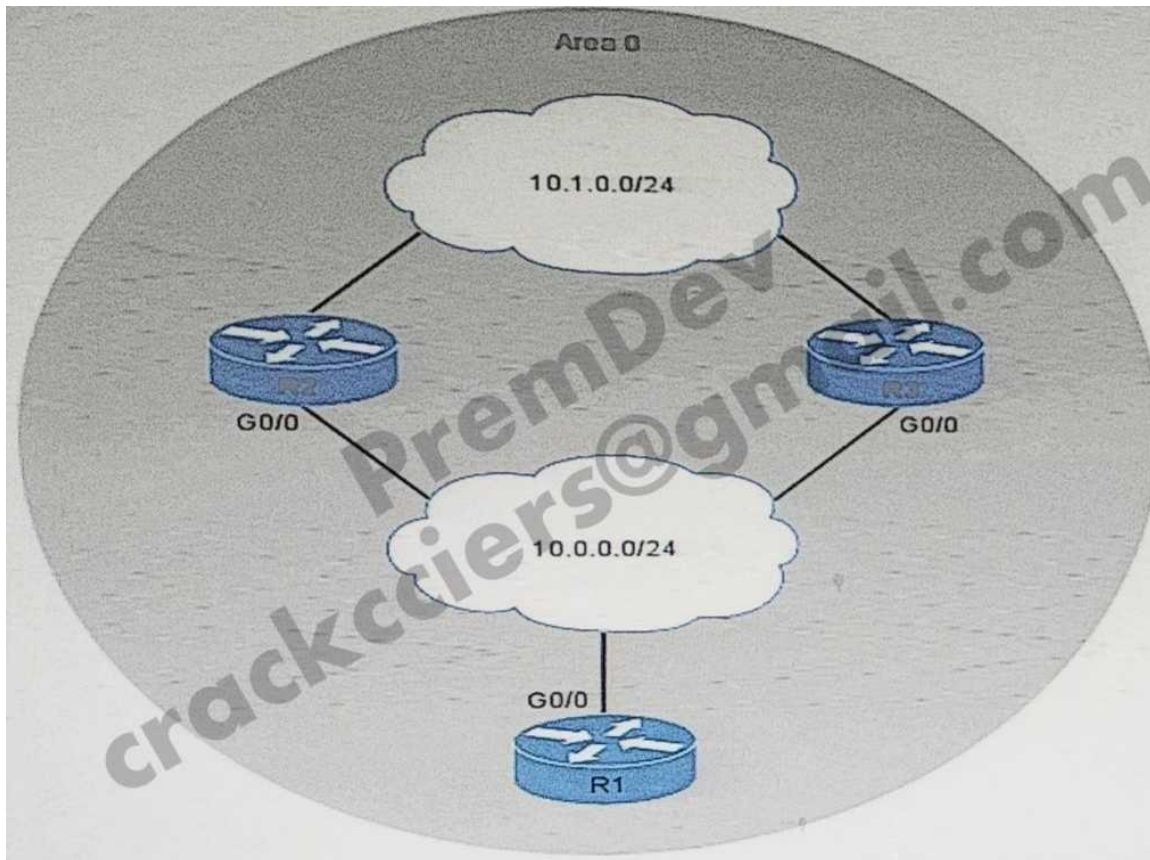
Which two statements about BGP confederation architecture are true?

- A. The intraconfederation EBGp default TTL value between sub-ASes is 1
- B. The AS\_SET and AS\_SEQ components help prevent loops inside a sub-AS
- C. The ASN of a confederation is excluded from the AS\_PATH path length calculation
- D. The intraconfederation EBGp default TTL value between sub-ASes is 255
- E. IBGP sessions inside a sub-AS have a default TTL of 1

**Answer:** AC

**QUESTION 1033**

Refer to the exhibit. R1 has an OSPF path to R2 and R3 for 10.1.0.0/24, but R1 has a routing entry for 10.1.0.0/24 from only one router at a time. Which option is the most likely cause?



- A. The R1 maximum-path is set to 1.
- B. R2 has a higher administrative distance.
- C. R2 is using a filter list.
- D. R2 is using an offset-list.

**Answer: A**

**QUESTION 1034**

Which function does PHP perform?

- A. popping the two bottommost labels one hop before the egress LSR
- B. popping the top label one hop before the egress LSR
- C. popping the top label at the egress LSR
- D. popping the two topmost labels one hop before the egress LSR
- E. popping the bottom label one hop before the egress LSR
- F. popping the bottom label at the egress LSR

**Answer: B**

**QUESTION 1035**

Which three criteria are used for stackwise election of a master switch?

- A. VLAN revision number

- B. longest uptime
- C. highest MAC address
- D. user-selected priority
- E. IOS version number
- F. lowest MAC address

**Answer:** BDF

#### QUESTION 1036

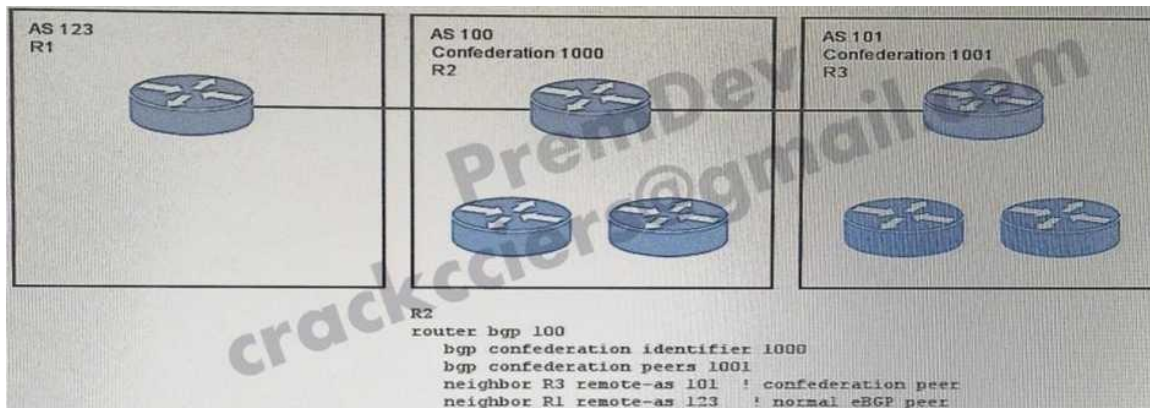
Which option describes how the IP address is assigned when you configure a Layer 3 EtherChannel interface?

- A. You must assign the IP address to the tunnel interface.
- B. The last IP address added to the EtherChannel is used automatically.
- C. You must assign the IP address to a port channel logical interface.
- D. The first IP address added to the EtherChannel is used automatically.

**Answer:** C

#### QUESTION 1037

Refer to the exhibit. Which BGP metric is preserved when router R2 sends routes to confederation router R3?



- A. AS\_PATH
- B. local preference
- C. origin
- D. AS4\_PATH

**Answer:** B

#### QUESTION 1038

Which options is the implicit access rule for IPv6 ACLs?

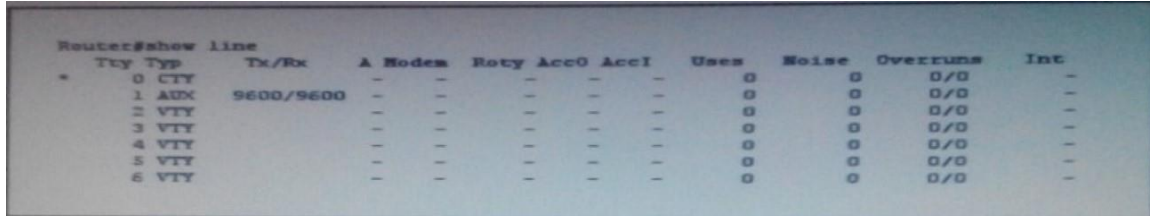
- A. permit all
- B. permit neighbor discovery, deny everything else
- C. deny all

D. permit all ICMP, deny everything else

**Answer: B**

**QUESTION 1039**

Refer to the exhibit. According to the given show line output, which type of line is connected to the router?



```

Router#show line
*
 Tty Typ Tx/Rx A Modem Roty Acc0 Acc1 Uses Noise Overruns Int
 -- --- --- --- --- --- --- --- --- --- ---
0 CTY - - - - - 0 0 0/0 -
1 AUX 9600/9600 - - - - - 0 0 0/0 -
2 VTY - - - - - 0 0 0/0 -
3 VTY - - - - - 0 0 0/0 -
4 VTY - - - - - 0 0 0/0 -
5 VTY - - - - - 0 0 0/0 -
6 VTY - - - - - 0 0 0/0 -

```

- A. Telnet
- B. terminal
- C. console
- D. SSH
- E. auxiliary

**Answer: C**

**QUESTION 1040**

What are two of the commands that you can enter to gracefully shut down OSPF and notify neighbors? (Choose two)

- A. router(config-if)# ip ospf graceful shutdown
- B. router(config-if)# ip ospf shutdown
- C. router(config-router)# shutdown
- D. router(config-router)# graceful shutdown
- E. router(config)# ip notify

**Answer: BC**

**QUESTION 1041**

Which statement about dynamic GRE between a headend router and a remote router is true?

- A. The headend router learns the IP address of the remote end router statically
- B. A GRE tunnel without an IP address has a status of administratively down
- C. GRE tunnels can be established when the remote router has a dynamic IP address
- D. The remote router initiates the tunnel connection

**Answer: D**

**QUESTION 1042**

Which command can you use to redistribute IBGP routes into the IGP?



- A. no synchronization
- B. redistribute protocol process-number
- C. bgp redistribute-internal
- D. synchronization

**Answer: B**

#### QUESTION 1043

which feature can be used to allow hosts with routes in the global routing table to access hosts in a VRF ?

- A. address families
- B. extended communities
- C. route target communities
- D. route leaking

**Answer: D**

#### QUESTION 1044

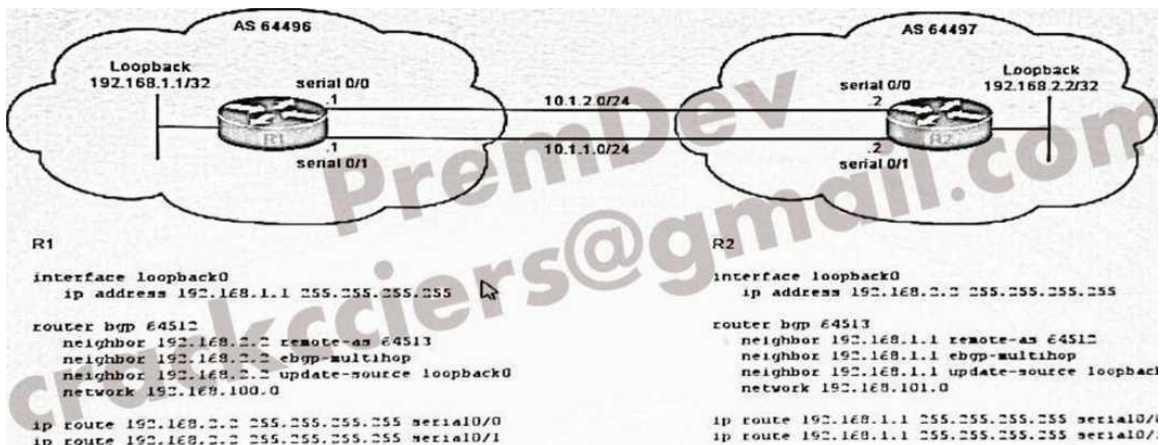
Which two statements about IPv6 automatic 6to4 tunnels are true? (Choose two)

- A. The router at each end of the tunnel must support both IPv4 and IPv6.
- B. They support both point-to-point and point-to-multipoint operations.
- C. The IPv6 routers that establish automatic 6to4 tunnels are configured in pairs.
- D. The IPv4 infrastructure operates as a virtual broadcast multiaccess link.
- E. They support point-to-multipoint operations only.

**Answer: AE**

#### QUESTION 1045

Refer to the exhibit. Which two options are two benefits of this configuration? (Choose two)



- A. increased security
- B. redundancy
- C. reduced jitter



- D. reduced latency
- E. load sharing

**Answer:** BE

**QUESTION 1046**

Which two statements about extended ping data patterns are true ?

- A. They can determine whether the wavelength received in the transceiver is correct.
- B. They can test for routing protocol issues.
- C. They can test the link for line code mismatches.
- D. They can test the internal repeater for power issues.
- E. They can test for STS/SDH errors.
- F. They can be used with MPLS to ping an LSP end to end.

**Answer:** CD

**QUESTION 1047**

Which three statements about Netflow are true? (Choose three)

- A. It can calculate the available bandwidth to support RSVP
- B. It can reduce Mean Time To Repair metrics for network issues
- C. It support usage accounting for network resources
- D. It can analyze source-to-destination traffic trends to support traffic engineering
- E. It prevents DDoS attacks against network elements
- F. It enables the network engineer to plan for increased bandwidth capacity and growth of the network

**Answer:** CDF

**QUESTION 1048**

What are two reasons for an OSPF neighbor relationship to be stuck in exstart/exchange state? (Choose two.)

- A. There is an area ID mismatch
- B. There is an MTU mismatch
- C. Both routers have the same router ID.
- D. There is an authentication mismatch
- E. Both routers have the same OSPF process ID

**Answer:** BC

**QUESTION 1049**

Which two statements about out-of-order packet transmission are true? (Choose two.)

- A. It can occur when packets are duplicated and resent
- B. It occurs only over TCP connections
- C. It can occur when packets are dropped and resent

- D. It can occur when packets take the same path to arrive at the same destination
- E. It can occur when packets use different paths to arrive at the same destination.

**Answer:** BE

**QUESTION 1050**

An IPv6 network has different MTUs on different segments, if the network is experiencing reliability issues, which option is the most likely reason?

- A. ICMPv6 is filtered.
- B. The Do Not Fragment bit is marked.
- C. HSRPv6 is configured incorrectly.
- D. The MTU size is greater than 1470 bytes.

**Answer:** B

**QUESTION 1051**

Refer to the exhibit. You have configured a router as shown for a new 100 Mbps metro-Ethernet link, but you discover that a significant number of output drops is occurring. Which option is the most likely cause of the problem?

```
class-map match-any COS2
 match cos 2

policy-map COS2_classification
 class COS2
 police 10000000 conform-action set-dscp-transmit af31 exceed-action set-dscp-transmit af32

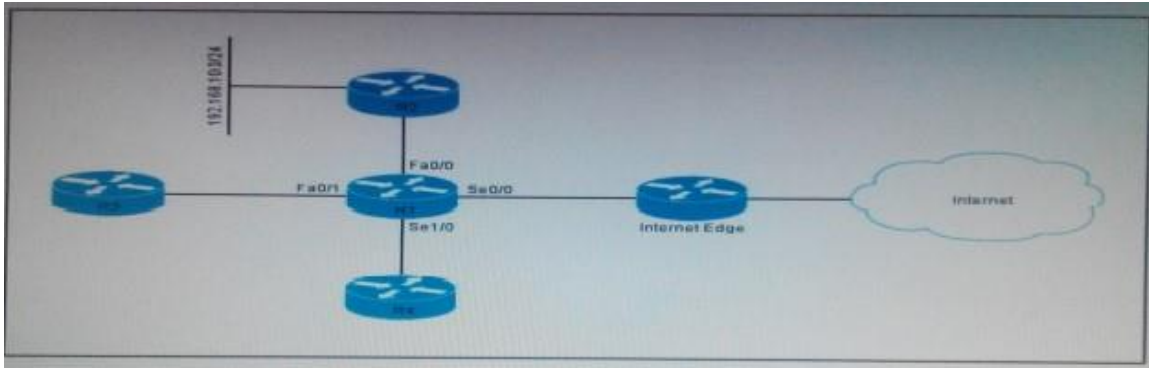
policy-map CE_outbound
 class COS2
 bandwidth remaining percent 20
 service-policy COS2_classification
```

- A. All traffic is sent as AF31 because the router is using the CE\_outbound policy map.
- B. COS2 traffic is being discarded by the service provider.
- C. WRED is misconfigured.
- D. All traffic is sent as AF31 because the amount of policed bandwidth is too high.

**Answer:** D

**QUESTION 1052**

Refer to the exhibit. If R1 uses EIGRP to learn route 192.168.10.0/24 from R2, which interface on R1 uses split horizon for route 192.168.10.0/24?



- A. Se0/0
- B. Fa0/0
- C. Se1/0
- D. Fa0/1

**Answer: B**

#### QUESTION 1053

What are two mechanisms that directed ARP uses to help resolve IP addresses to hardware addresses? (Choose two)

- A. It removes address-resolution restrictions, allowing dynamic protocols to advertise rou information for the device loopback address.
- B. It uses ICMP redirects to advertise next-hop addresses to foreign hosts.
- C. It uses series of ICMP echo messages to relay next-hop addresses
- D. It removes address-resolution restrictions, allowing dynamic protocols to advertise routing information for the next-hop address.
- E. It uses a proxy mechanism to allow a device to respond to ARP requests for the addresses of other devices.

**Answer: CD**

#### QUESTION 1054

Which two statements about TCP MSS are true? (Choose two.)

- A. The two endpoints in a TCP connection report their MSS values to one another.
- B. It operates at Layer 3.
- C. MSS values are sent in TCP SYN packets
- D. It sets the maximum amount of data that a host sends in an individual datagram
- E. It sets the minimum amount of data that a host accepts in an individual datagram

**Answer: CD**

#### QUESTION 1055

Which three configuration settings must match for switches to be in the same MST region? (Choose three)

- A. password
- B. domain name
- C. VLAN names
- D. revision number
- E. VLAN-to-instance assignment
- F. region name

**Answer:** DEF

**QUESTION 1056**

What are three valid HSRP states? (Choose three)

- A. listen
- B. learning
- C. full
- D. established
- E. speak
- F. IN IT

**Answer:** AEF

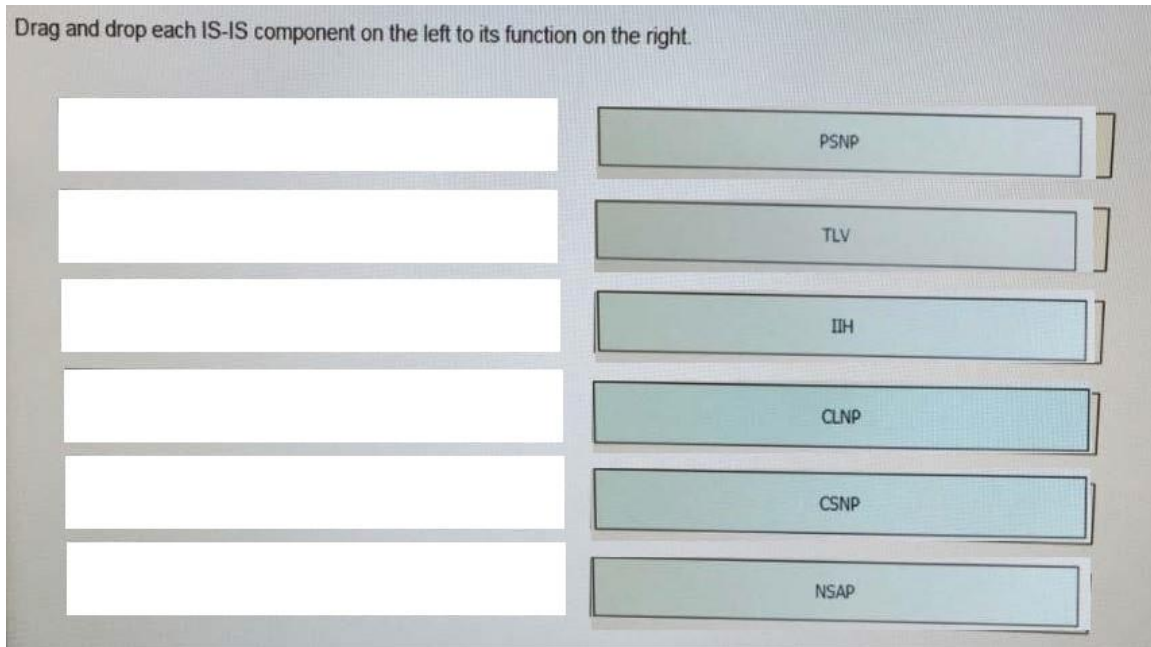
**QUESTION 1057**

Drag and Drop Question

Drag and drop each IS-IS component on the left to its function on the right.

|      |                                                           |
|------|-----------------------------------------------------------|
| CLNP | acknowledges link-state packets                           |
| CSNP | carries data inside link-state packets                    |
| IIH  | establishes neighbor adjacencies with other IS-IS devices |
| NSAP | provides a connectionless circuit for OSI networks        |
| PSNP | synchronizes the link-state database                      |
| TLV  | the address that identifies an access point               |

**Answer:**



#### QUESTION 1058

Refer to the exhibit, Router A must reach router X.  
Which option describes how router A decides which interface to use to forward packets ?

- A. Router A relies on FIB to select the desired interface
- B. Router A does per-packet load-balance across the two interfaces
- C. Router A does per-flow load-balance across the two interfaces
- D. Router A relies on RIB select the desired interface

**Answer: D**

#### QUESTION 1059

Which action must you take to configure encryption for a dynamic VPN?

- A. Configure an FQDN peer in the crypto profile.
- B. Configure an FQDN identity in the crypto keyring
- C. Configure an FQDN in the crypto keyring
- D. Configure an FQDN on the router.

**Answer: A**

#### QUESTION 1060

Which feature can segregate routing tables on a single device?

- A. BGP
- B. VRF-lite
- C. OSPFv3
- D. MPLS

**Answer: B**

**QUESTION 1061**

Which PIM mode can forward traffic by using only (\*, G) routing table entries?

- A. dense mode
- B. sparse-dense mode
- C. sparse mode
- D. bidirectional mode

**Answer: C**

**QUESTION 1062**

You are configuring CoS-to-DSCP mappings with three requirements:

- AF13 must be marked with COS 1.
- AF22 must be marked with COS 2.
- EF must be marked with COS5.

Which configuration command can you use to implement the requirements?

- A. mls qos map cos-dscp 0 14 20 24 32 46 48 56
- B. mls qos map cos-dscp 0 10 18 24 32 46 48 56
- C. mls qos map cos-dscp 0 12 18 24 32 40 46 56
- D. mls qos map cos-dscp 0 12 18 24 32 46 48 56

**Answer: A**

**QUESTION 1063**

Which three statements about voice VLANs are true? (Choose three )

- A. Incoming OoS values are trusted only for untagged traffic
- B. When voice VLANs are enabled, PortFast is configured automatically
- C. When voice VLANs are configured, all untagged traffic is set to CoS 5
- D. IP Phones override the CoS on all incoming tagged and untagged traffic
- E. Their default CoS value is 0
- F. They are disabled by default

**Answer: ADF**

**QUESTION 1064**

Which CoPP feature can you configure after applying the control-plane command?

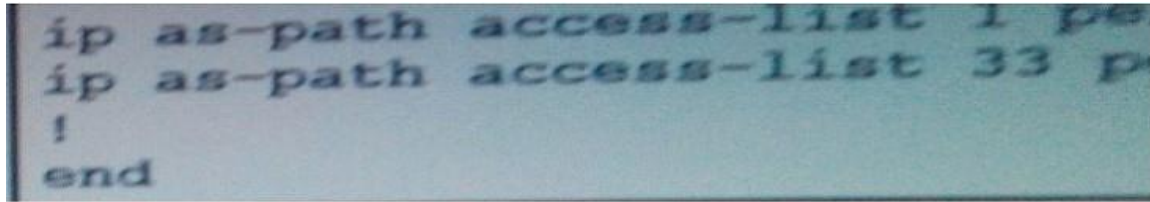
- A. line card interfaces
- B. address filters
- C. aggregates
- D. drop policies

**Answer: C**



**QUESTION 1065**

Refer to the exhibit. Which routes are advertised by the router?



```
ip as-path access-list 1 pe
ip as-path access-list 33 p
!
end
```

- A. No routes
- B. BGP routes from AS 85006 and BGP routes sourced on this router
- C. All routes
- D. BGP routes sourced on this router

**Answer: C**

**QUESTION 1066**

From which component does an IS-IS router construct its link-state database?

- A. SPTs
- B. LSPs
- C. hello packets
- D. LSAs

**Answer: B**

**QUESTION 1067**

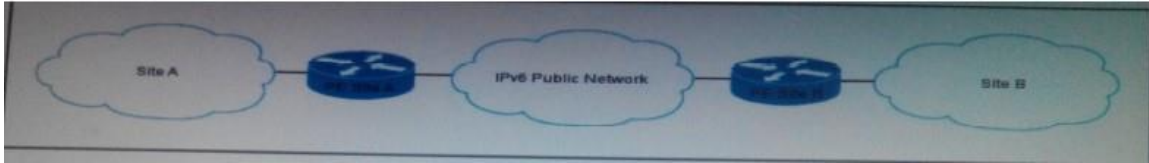
What are two mechanisms that directed ARP uses to help resolve IP addresses to hardware addresses? (Choose two)

- A. It removes address-resolution restrictions, allowing dynamic protocols to advertise routing information for the next-hop address.
- B. It uses a proxy mechanism to allow a device to respond to ARP requests for the addresses of other devices.
- C. It removes address-resolution restrictions, allowing dynamic protocols to advertise routing information for the loopback address.
- D. It uses a series of ICMP echo messages to reply next hop addresses.
- E. It uses ICMP redirects to advertise next-hop addresses to foreign hosts.

**Answer: AD**

**QUESTION 1068**

Refer to the exhibit. An Ipv6 tunnel is configured between site A and site B. Which feature does the tunnel support?



- A. single policy
- B. transport mode
- C. site-to-site tunnel mode
- D. OSPFv2

**Answer: C**

**QUESTION 1069**

Which two statements about IGMP filter that are operating in access mode are true? (Choose two)

- A. They can be applied on the access port only
- B. A filter that is applied on the SVI must use the same settings as a filter that is applied to the trunk port
- C. They can be applied on both the SVI and the access port
- D. The SVI filter is always checked first

**Answer: AB**

**QUESTION 1070**

A network engineer is extending a LAN segment between two geographically separated data centers. Which enhancement to a spanning-tree design prevents unnecessary traffic from crossing the extended LAN segment?

- A. Modify the spanning-tree priorities to dictate the traffic flow.
- B. Create a Layer 3 transit VLAN to segment the traffic between the sites.
- C. Use VTP pruning on the trunk interfaces.
- D. Configure manual trunk pruning between the two locations.

**Answer: C**

**QUESTION 1071**

The OSPF database of a router shows LSA types 1, 2, 3 and 7 only. Which type of area is this router connected to?

- A. backbone area
- B. totally stubby area
- C. stub area
- D. not-so-stubby area

**Answer: D**

**QUESTION 1072**

Which feature can you implement to most effectively protect customer traffic in a rate-limited WAN Ethernet service?

- A. HCBWFQ
- B. IntServ with RSVP
- C. DiffServ
- D. The IPsec VTI qos pre-classify command
- E. Q-in-Q

**Answer: A**

#### QUESTION 1073

An engineer has configured a router to use EUI-64, and was asked to document the IPv6 address of the router. The router has the following interface parameters:

```
mac address C601.420F.0007
subnet 2001:DB8:0:1::/64
```

- A. 2001:DB8:0:1:C601:42FF:FE0F:7
- B. 2001:DB8:0:1:FFFF:C601:420F:7
- C. 2001:DB8:0:1:FE80:C601:420F:7
- D. 2001:DB8:0:1:C601:42FE:800F:7

**Answer: A**

#### QUESTION 1074

Which command configures port security on a switch to enable permanent MAC address learning on the interface?

- A. switchport port-security mac-address-learning enable
- B. switchport port-security mac-address timer 0
- C. switchport port-security mac-address sticky
- D. switchport port-security mac-address maximum 1 sticky
- E. switchport port-security mac-address permanent

**Answer: C**

#### QUESTION 1075

Refer to the exhibit. Which option is the most likely explanation of the duplicate address message logged?

```

R2#show standby
FastEthernet1/0 - Group 50
State is Active
 2 state changes, last state change 00:04:02
Virtual IP address is 10.10.1.1
Active virtual MAC address is 0000.0c07.ac32 (MAC In Use)
Local virtual MAC address is 0000.0c07.ac32 (v1 default)
Hello time 3 sec, Hold time 10 sec
Next hello send in 1.504 secs
Preemption enabled, delay reload 90 secs
Active router is local
Standby router is unknown
Priority 200 (configured 200)
Track interface FastEthernet0/0 state Up decrement 20
Group name is "hsrp-fal/0-50" (default)
R2#
R1#-1-DUPADDR: Duplicate address 10.10.1.1 on FastEthernet1/0, sourced by 0000.0c07.ac32
R2#

```

- A. HSRP misconfiguration
- B. a PC with IP of 10.10.1.1
- C. spanning-tree-loop
- D. a hardware problem

**Answer: A**

#### QUESTION 1076

Which three components are in an MPLS header? (choose three)

- A. a 4-bit experimental use field
- B. a 4-bit label stack entry
- C. an 8-bit TTL
- D. a 2-bottom of stack
- E. a 3-bit experimental use field
- F. a 20-bit label

**Answer: CEF**

#### QUESTION 1077

What is the main function of VRF-lite?

- A. To allow devices to use labels to make Layer 2 Path decisions
- B. To segregate multiple routing tables on a single device
- C. To connect different autonomous systems together to share routes
- D. To route IPv6 traffic across an IPv4 backbone

**Answer: B**

#### QUESTION 1078

Refer to the exhibit. Which prefixes will have their distance changed?

```
router eigrp 100
 network 10.0.0.0
 distance 80 10.1.12.0 0.0.0.255 10
 !
 access-list 10 permit 10.1.0.0 0.0.255.255
```

- A. all prefixes matching access-list 10 learned from peers in the range 10.1.12.0- 10.1.12.255
- B. all internal prefixes in the range 10.1.12.0-10.1.12.255 learned from peers matching access-list 10.
- C. all internal prefixes matching access-list 10 learned from peers in the range 10.1.12.0-10.1.12.255
- D. all prefixes in the range 10.1.12.0-10.1.12.255 learned from peers matching access-list

**Answer: C**

**QUESTION 1079**

Which two methods do IPsec VTIs used to identify and transmit encrypted traffic through the tunnel? (choose two)

- A. static routing
- B. dynamic routing
- C. object groups
- D. ACLs
- E. NAT

**Answer: AB**

**QUESTION 1080**

When you deploy DMVPN, what is the purpose of the command `crypto isakmp key ciscotest address 0.0.0.0 0.0.0.0` ?

- A. It is configured on hub and spoke router to establish peering
- B. It is configured on hub to set the pre-shared key for the spoke routers
- C. It is configured on the spokes to indicate the hub router
- D. It is configured on the Internet PE routers to allow traffic to traverse the ISP core

**Answer: B**

**QUESTION 1081**

Refer to the exhibit. Which statement about the configuration is true?

```
interface Ethernet 0
 pppoe-client dial-pool-number 5
 pppoe-client ppp-max-payload 1500
interface Dialer 1
 ip address negotiated
 dialer pool 5
 mtu 1492
```

- A. This configuration is incorrect because the dialer interface number must be the same as the dialer pool number.
- B. This configuration is missing an IP address on the dialer interface.
- C. This configuration is incorrect because the MTU must match the ppp-max-payload that is defined.
- D. This configuration represents a complete PPPoE client configuration on an Ethernet connection.

**Answer: D**

#### QUESTION 1082

A company has just opened two remote branch offices that need to be connected to the corporate network. Which interface configuration output can be applied to the corporate router to allow communication to the remote sites?

- A. interface Tunnel0  
bandwidth 1536  
ip address 209.165.200.230 255.255.255.224  
tunnel source Serial0/0  
tunnel mode gre multipoint
- B. interface fa0/0  
bandwidth 1536  
ip address 209.165.200.230 255.255.255.224  
tunnel mode gre multipoint
- C. interface Tunnel0  
bandwidth 1536  
ip address 209.165.200.231 255.255.255.224  
tunnel source 209.165.201.1  
tunnel-mode dynamic
- D. interface fa 0/0  
bandwidth 1536  
ip address 209.165.200.231 255.255.255.224  
tunnel source 192.168.161.2  
tunnel destination 209.165.201.1  
tunnel-mode dynamic

**Answer: A**

#### QUESTION 1083

Refer to the exhibit. OSPF is configured on R1 and R2 as shown. Which action can you take to allow a neighbor relationship to be established.



```

R1#show ip ospf interface FastEthernet0/0.12
FastEthernet0/0.12 is up, line protocol is up
 Internet Address 10.1.12.1/24, Area 0
 Process ID 2, Router ID 10.1.1.1, Network Type
 NON BROADCAST, Cost: 10
 Transmit Delay is 1 sec, State DR, Priority 1
 Designated Router (ID) 10.1.1.1, Interface address 10.1.12.1
 No backup designated router on this network
 Timer intervals configured, Hello 30, Dead 120, Wait 120,
 Retransmit 5
 oob-resync timeout 120
 Hello due in 00:00:19
 Supports Link-local Signaling (LLS)
 Cisco NSF helper support enabled
 IETF NSF helper support enabled
 Index 2/2, flood queue length 0
 Next 0x0(0)/0x0(0)
 Last flood scan length is 1, maximum is 1
 Last flood scan time is 0 msec, maximum is 0 msec
 Neighbor Count is 0, Adjacent neighbor count is 0
 Suppress hello for 0 neighbor(s)
R1#

R2#show ip ospf interface FastEthernet0/0.12
FastEthernet0/0.12 is up, line protocol is up
 Internet Address 10.1.12.2/24, Area 0
 Process ID 1, Router ID 10.2.2.2, Network Type
 BROADCAST, Cost: 10
 Transmit Delay is 1 sec, State DR, Priority 1
 Designated Router (ID) 10.2.2.2, Interface address 10.1.12.2
 No backup designated router on this network
 Timer intervals configured, Hello 10, Dead 40, Wait 40,
 Retransmit 5
 oob-resync timeout 40
 Hello due in 00:00:02
 Supports Link-local Signaling (LLS)
 Cisco NSF helper support enabled
 IETF NSF helper support enabled
 Index 2/2, flood queue length 0
 Next 0x0(0)/0x0(0)
 Last flood scan length is 1, maximum is 2
 Last flood scan time is 0 msec, maximum is 0 msec
 Neighbor Count is 0, Adjacent neighbor count is 0
 Suppress hello for 0 neighbor(s)
R2#

```

- A. Configure R1 and R2 as neighbors using interface addresses.
- B. On R1, set the network type of the FastEthernet0/0.12 interface to broadcast
- C. On R1, change the process ID to 1
- D. Configure R1 and R2 as neighbors using router IDs.

**Answer: B**

#### QUESTION 1084

Refer to Exhibit. How is voice traffic entering this router on interface GigabitEthernet00 being handled by the shown making policy?

```
policy-map marking
class in-voice
class in-streaming
 set ip dscp af41
class in-time-sensitive
 set ip dscp af31
class class-default
 set ip dscp af21
!
class-map match-any in-streaming
 match access-group name streaming
 match access-group name tp-rooms
class-map match-any in-voice
 match access-group name voice
class-map match-any in-time-sensitive
 match access-group name time-sensitive
!
ip access-list extended voice
deny ip any any fragments
permit udp any 10.192.0.0 0.15.255.255
permit udp 10.192.0.0 0.15.255.255 any
permit udp any any range 51100 51140
permit udp any range 51100 51140 any
permit udp any range 17384 17424 any range 17384 17424
```

- A. Any traffic matching access-list vice is trusted and marking is not changed.
- B. All voice is being set to DSCP 0.
- C. All voice is being set to AF21.
- D. Any traffic matching access-list voice is set to EF.

**Answer: C**

#### QUESTION 1085

If EIGRP and OSPF are configured within an administrative domain for the same network, which value can you change so that the OSPF becomes the installed routing protocol for all routes?

- A. Local preference
- B. Metric
- C. MED
- D. Administrative distance
- E. Prefix length

**Answer: E**

#### QUESTION 1086

Which two statements about VTPv3 are true? (Choose two)

- A. Extended VLANs prevent VTPv3 switches from becoming VTPv2
- B. VTPv3 must receive VTPv2 packets before it can send VTPv2 packets

- C. VTPv3 accepts configuration information only from VTPv2 devices
- D. VTPv3 sends VTPv2 packets when they are detected on a trunk port
- E. VTPv3 regions can communicate in server mode only over a VTPv2 region

**Answer: AB**

**QUESTION 1087**

Refer to the exhibit, which statement is true?

```
Router#sh ip ospf 1
Routing Process "ospf 1" with ID 1.0.0.102
Start time: 00:00:09.225, Time elapsed: 00:02:54.859
Supports only single TOS(TOS0) routes
Supports opaque LSA
Supports Link-local Signaling (LLS)
Supports area transit capability
Supports NSSA (compatible with RFC 3101)
Event-log enabled, Maximum number of events: 1000, Mode: cyclic
It is an area border and autonomous system boundary router
Redistributing External Routes from,
 connected, includes subnets in redistribution
Router is not originating router-LSAs with maximum metric
Initial SPF schedule delay 100 msec
Minimum hold time between two consecutive SPF's 200 msec
Maximum wait time between two consecutive SPF's 10000 msec
Incremental-SPF disabled
Initial LSA throttle delay 50 msec
Minimum hold time for LSA throttle 100 msec
Maximum wait time for LSA throttle 5000 msec
Minimum LSA arrival 80 msec
LSA group pacing timer 240 secs
Interface flood pacing timer 33 msec
Retransmission pacing timer 66 msec
Number of external LSA 0. Checksum Sum 0x000000
Number of opaque AS LSA 0. Checksum Sum 0x000000
Number of DCbitless external and opaque AS LSA 0
Number of DoNotAge external and opaque AS LSA 0
Number of areas in this router is 2. 2 normal 0 stub 0 nssa
Number of areas transit capable is 0
External flood list length 0
IETF NSF helper support enabled
Cisco NSF helper support enabled
BFD is enabled
Reference bandwidth unit is 100 mbps
```

- A. BFD, SPF and LSA timers are tuned for faster convergence
- B. Fast convergence is not configured
- C. BFD and SPF throttling are configured
- D. Only BFD is enabled

**Answer: A**



**QUESTION 1088**

Drag and Drop Question

Drag and Drop Cisco PFR adjacency types.

|                   |                                                                                                                                                                                                                                                                                                                                   |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| punt adjacency    | Packets are discarded.                                                                                                                                                                                                                                                                                                            |
| drop adjacency    | Features that require special handling or features that are not yet supported in conjunction with Cisco Express Forwarding switching paths are forwarded to the next switching layer for handling. Features that are not supported are forwarded to the next higher switching level.                                              |
| null adjacency    | When a router is connected directly to several hosts, the FIB table on the router maintains a prefix for the subnet rather than for the individual host prefixes. The subnet prefix points to a glean adjacency. When packets need to be forwarded to a specific host, the adjacency database is gleaned for the specific prefix. |
| discard adjacency | Packets are dropped, but the prefix is checked.                                                                                                                                                                                                                                                                                   |
| glean adjacency   | Packets destined for a Null0 interface are dropped. This can be used as an effective form of access filtering.                                                                                                                                                                                                                    |

**Answer:**

|                   |                   |
|-------------------|-------------------|
| punt adjacency    | discard adjacency |
| drop adjacency    | punt adjacency    |
| null adjacency    | glean adjacency   |
| discard adjacency | drop adjacency    |
| glean adjacency   | null adjacency    |

**QUESTION 1089**

Which two statements about IGMP filters that are operating in access mode are true? (Choose Two)

- A. They can be applied on the access port only.
- B. A filter that is applied on the SVI must use the same settings as a filter that is applied to the trunk port.
- C. The port filter is always checked first.
- D. They can be applied on both the SVI and the access port.

**Answer:** AB

**QUESTION 1090**

Which technology can MSDP SA filters use to filter traffic?

- A. route maps
- B. community lists
- C. prefix lists
- D. class maps

**Answer:** A

**QUESTION 1091**

Which two statements about TCP are true? (Choose two.)

- A. TCP option must be divisible by 32.

- B. It has a 16-bit window size.
- C. Its maximum data offset is fifteen 32-bit words.
- D. It has a 32-bit window size.
- E. Its maximum data offset is ten 32-bit words.
- F. It has a 32-bit checksum field.

**Answer:** BC

#### QUESTION 1092

Refer to the exhibit. Switch DSW1 should share the same MST region with switch DSW2. Which statement is true?

```
DSW1#sh vtp status
VTP Version : running VTP1 (VTP2 capable)
Configuration Revision : 2
Maximum VLANs supported locally : 1005
Number of existing VLANs : 7
VTP Operating Mode : Client
VTP Domain Name : DALLAS
VTP Pruning Mode : Disabled
VTP V2 Mode : Disabled
VTP Traps Generation : Disabled
MD5 digest : 0xF1 0xAC 0x5E 0xCF 0xF7 0xEE 0x9E 0xD6
Configuration last modified by 10.101.101.11 at 3-1-93 23:57:30

DSW2#sh vtp status
VTP Version : running VTP1 (VTP2 capable)
Configuration Revision : 3
Maximum VLANs supported locally : 1005
Number of existing VLANs : 7
```

- A. Configure DSW1 with the same version number, and VLAN-to-instance mapping as shown on DSW2.
- B. Configure DSW1 with the same region name, number, and VLAN-to-instance mapping as shown on DSW2.
- C. DSW2 uses the VTP server mode to automatically propagate the MST configuration to DSW1.
- D. DSW1 is in VTP client mode with a lower configuration revision number, therefore, it automatically inherits MST configuration from DSW2.
- E. DSW1 automatically inherits MST configuration from DSW2 because they have the same domain name.

**Answer:** B

#### QUESTION 1093

Which three benefits does the Cisco Easy Virtual Network provide to an enterprise network? (Choose three.)

- A. simplified Layer 3 network virtualization
- B. improved shared services support
- C. enhanced management, troubleshooting, and usability
- D. reduced configuration and deployment time for dot1q trunking
- E. increased network performance and throughput
- F. decreased BGP neighbor configurations

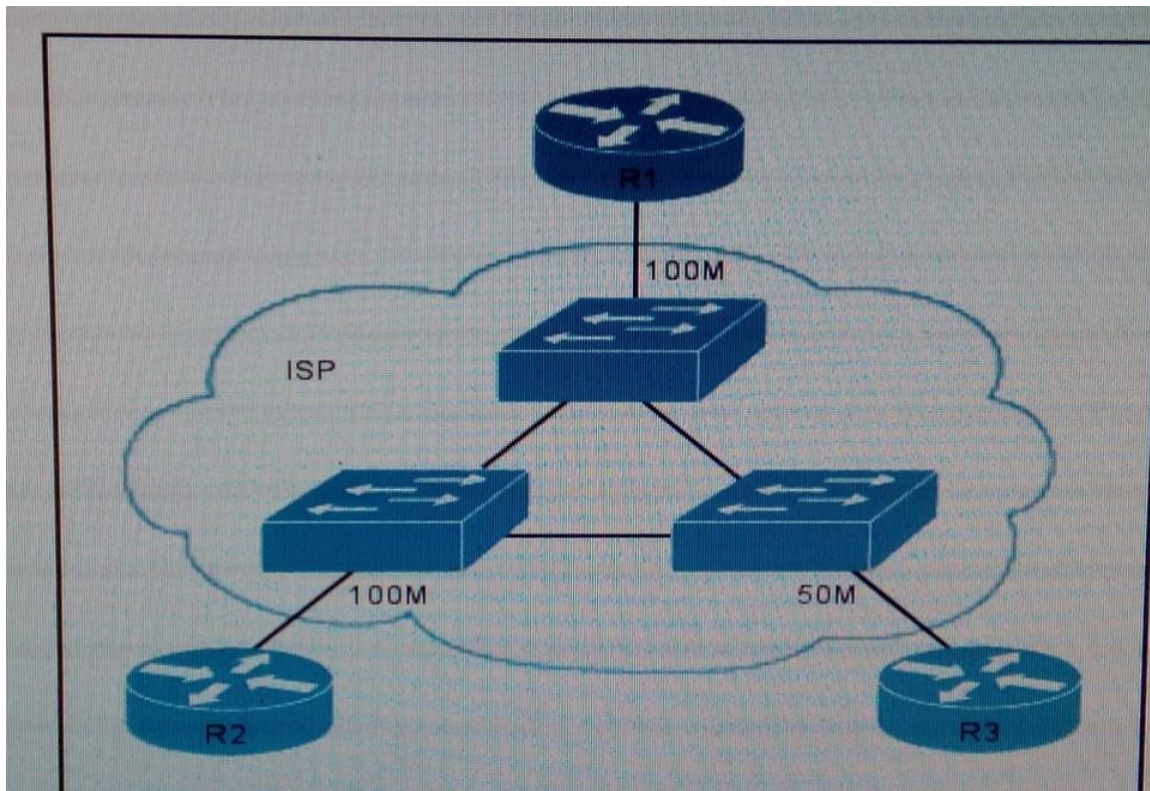
**Answer:** ABC

#### QUESTION 1094



Refer to the exhibit. R1, R2, and R3 in different satellite offices of the same organization, which sources multicast video streams from R1. R3 frequently receives video streams intended for R2. These streams saturate the available bandwidth of R3.

Which configuration change can alleviate the congestion on R3?



- A. Enable IGMP snooping on all switches that connect to R1, R2 and R3
- B. Place a PIM filter on the switch and interface that connect to R1 only
- C. Configure IGMP snooping on R1, R2 and R3
- D. Place a PIM filter on the switches and interfaces that connect to R1, R2 and R3
- E. Configure R3 to send an immediate-leave message when necessary to stop receiving unwanted traffic
- F. Enable PIM snooping on all switches that connect to R1, R2 and R3

**Answer: A**

#### QUESTION 1095

Which two statements about UDP and latency are true? (Choose two.)

- A. UDP is connection oriented, so the size of a UDP stream is independent of latency.
- B. UDP is connection oriented, so latency can increase the size of a UDP stream.
- C. UDP is connectionless, so latency can increase the size of a UDP stream.
- D. If latency decreases, throughput also decreases.
- E. If latency increases, throughput also increases.
- F. Latency can cause jitter on UDP connections.

**Answer: CF**

**QUESTION 1096**

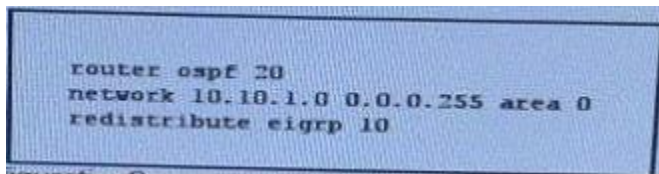
What is a reason for an EIGRP router to send an SIA reply to a peer?

- A. to respond to an SIA query with the alternative path requested
- B. to respond to a query reporting that the prefix has gone stuck-in-active
- C. to respond to an SIA query that the router is still waiting on replies from its peers
- D. to respond to a reply reporting that the prefix has gone stuck-in-active

**Answer: C**

**QUESTION 1097**

Refer to the exhibit, what the effect of the given configuration?



```
router ospf 20
network 10.10.1.0 0.0.0.255 area 0
redistribute eigrp 10
```

- A. OSPF and EIGRP will perform mutual redistribution
- B. Network 10.10.1.0/24 will be redistributed in EIGRP
- C. Unless the subnets keyword is added to the redistribute command, subnetted networks will be excluded from OSPF
- D. The routing table will show a metric of 10 for routes redistributed from EIGRP

**Answer: C**

**QUESTION 1098**

A packet capture log indicates that several router solicitation messages were sent from a local host on the IPv6 segment. What is the expected acknowledgment and its usage?

- A. Router acknowledgment messages will be forwarded upstream, where the DHCP server will allocate addresses to the local host.
- B. Routers on the IPv6 segment will respond with an advertisement that provides an external path from the local subnet, as well as certain data, such as prefix discovery.
- C. Duplicate Address Detection will determine if any other local host is using the same IPv6 address for communication with the IPv6 routers on the segment.
- D. All local host traffic will be redirected to the router with the lowest ICMPv6 signature, which is statically defined by the network administrator.

**Answer: B**

**QUESTION 1099**

What are the three required attributed in a BGP update message? (Choose three )

- A. AS\_PATH
- B. COMMUNITY
- C. AGGREGATOR

- D. MED
- E. NEXT\_HOP
- F. ORIGIN

**Answer:** AEF

**QUESTION 1100**

Which value does EIGRP use to determine the metric for a summary address?

- A. The average of the component metrics
- B. A default fixed value
- C. The lowest metric among the component routes
- D. The highest metric among the component routes

**Answer:** C

**QUESTION 1101**

Which CoS value is mapped to DSCP 48 by default?

- A. 6
- B. 7
- C. AF21
- D. AF44
- E. AF41
- F. 46

**Answer:** A

**QUESTION 1102**

Under which condition does UDP dominance occur?

- A. when TCP traffic is in the same class as UDP
- B. when UDP flows are assigned a lower priority queue
- C. when WRED is enabled
- D. when ACLs are in place to block TCP traffic

**Answer:** A

**QUESTION 1103**

Which option is a correct match criterion for policy-based routing?

- A. length
- B. interface type
- C. interface
- D. cost

**Answer:** A

**QUESTION 1104**

Which statement about the spanning-tree portfast feature on the switch is true?

- A. If an interface is enabled for portfast receives BPDU, the port goes through the spanning-tree listening, learning, and forwarding states.
- B. If an interface is enabled for portfast receives BPDU, the port does not go through the spanning-tree listening, learning, and forwarding states.
- C. If an interface is enabled for portfast receives BPDU, the port is shut down immediately.
- D. If an interface is enabled for portfast receives BPDU, the port goes into the spanning-tree inconsistent state.

**Answer: A**

**QUESTION 1105**

A network engineer wants to add a new switch to an existing switch stack. Which configuration must be added to the new switch before it can be added to the switch stack?

- A. No configuration must be added.
- B. stack ID
- C. IP address
- D. VLAN information
- E. VTP information

**Answer: A**

**QUESTION 1106**

What are the three modes of Unicast Reverse Path Forwarding?

- A. strict mode, loose mode, and VRF mode
- B. strict mode, loose mode, and broadcast mode
- C. strict mode, broadcast mode, and VRF mode
- D. broadcast mode, loose mode, and VRF mode

**Answer: A**

**QUESTION 1107**

What is the function of NSF?

- A. forward traffic simultaneously using both supervisors
- B. forward traffic based on Cisco Express Forwarding
- C. provide automatic failover to back up supervisor in VSS mode
- D. provide nonstop forwarding in the event of failure of one of the member supervisors

**Answer: D**

**QUESTION 1108**

Refer to the exhibit. Which two statements about the given NetFlow configuration are true?(Choose two)



```
mls ip multicast flow-stat-timer 9
mls flow ip interface-full
ip flow-export version 5
ip flow-export destination 172.17.17.212 9995
ip flow-aggregation cache protocol-port
ip flow-aggregation cache prefix
```

- A. It supports a maximum of 2048 entries
- B. It supports only IPv4 flows
- C. It supports both IPv4 and IPv6 flows
- D. It supports only IPv6 flows
- E. It uses the default port to send flows to the exporter

**Answer:** AB

**QUESTION 1109**

Refer to the exhibit. What happens to a TCP packet that is received on interface GigabitEthernet 0/0/0.100, which has DF bit set to 1, and packet has a valid destination?

```
!
ip access-list extended list1
deny tcp any any
permit ip any any
!
route-map foo permit 50
match ip address list1
set ip df 0
!
interface GigabitEthernet0/0/0.1000
description *** VLAN 1000 ***
encapsulation dot1Q 1000 native
ip address 10.1.1.3 255.255.255.0
ip policy route-map foo
service-policy input marking
!
```

- A. The packet is not matched by route-map foo and the DF bit is left as it was
- B. The packet is matched by route-map foo and the DF bit is left as it was
- C. The packet is matched by route-map foo and the DF bit is set to 0
- D. The packet is not matched by route-map foo and the DF bit is set to 0

**Answer: A**

**QUESTION 1110**

When you configure an IPv6 IPsec tunnel, which two fields can represent the ISAKMP identity of a peer? (Choose two)

- A. Authentication method
- B. DH group identifier
- C. Hostname
- D. IP address
- E. Encryption algorithm

**Answer: CD**

**QUESTION 1111**

Which two statements about 6PE are true? (choose two)

- A. iBGP peering between the PE routers should be done using an IPv6 address.
- B. It does not require MPLS between the PE routers.
- C. It requires a VRF on the IPv6 interface
- D. It requires BGP to exchange labeled IPv6 unicast between PE routers
- E. Uses an IPv4-mapped IPv6 address as the IPv4 next-hop on PE router

**Answer: DE**

**QUESTION 1112**

An access switch at a remote location is connected to the spanning-tree root with redundant uplinks. A network engineer notices that there are issues with the physical cabling of the current root port. The engineer decides to force the secondary link to be the desired forwarding root port. Which action accomplishes this task?

- A. Adjust the secondary link to have a lower priority than the primary link.
- B. Change the link type to point-to-point.
- C. Apply a BPDU filter on the primary interface of the remote switches.
- D. Enable Rapid Spanning Tree to converge using the secondary link.

**Answer: A**

**QUESTION 1113**

Which command correctly configures standby tracking for group 1 using the default decrement priority value?

- A. standby 1 track 100
- B. standby 1 track 100 decrement 1
- C. standby 1 track 100 decrement 5
- D. standby 1 track 100 decrement 20

**Answer: A**



**QUESTION 1114**

Which two statements about IP SLA are true? (Choose two)

- A. SNMP access is not supported
- B. It uses active traffic monitoring
- C. It is Layer 2 transport-independent
- D. The IP SLA responder is a component in the source Cisco device
- E. It can measure MOS
- F. It uses NetFlow for passive traffic monitoring

**Answer:** BC

**QUESTION 1115**

Which three characteristics are shared by subinterfaces and associated EVNs? (Choose three.)

- A. IP address
- B. routing table
- C. forwarding table
- D. access control lists
- E. NetFlow configuration

**Answer:** ABC

**QUESTION 1116**

How long will the root bridge continue to send configuration BPDUs to notify all bridges to age out their MAC address tables?

- A. Three times the hello interval
- B. The forward delay + max-age time
- C. The max-age time
- D. The forward delay time

**Answer:** B

**QUESTION 1117**

Refer to the exhibit, which type of connection does ERSPAN use to transport traffic from switch 1 to switch 2?



- A. An SVI
- B. A PPTP tunnel
- C. A GRE tunnel
- D. A VLAN

**Answer: C**

**QUESTION 1118**

If OSPF fast hellos are configured on an interface and the hello-multiplier is set to 10, how frequently are hello packets sent?

- A. every 200 milliseconds
- B. every 50 milliseconds
- C. every 100 milliseconds
- D. every 500 milliseconds

**Answer: C**

**QUESTION 1119**

Refer to the exhibit. Which statement is true?

```

R5#show isis database
IS-IS Level-2 Link State Database:
LSPID LSP Seq Num LSP Checksum LSP Holdtime ATT/P/OL
R4.00-00 0x0000007A 0xFF38 761 0/0/0
R4.02-00 0x00000065 0x7CF1 758 0/0/0
R5.00-00 * 0x0000000A 0x6CFB 757 0/0/0

```

- A. R4 is a DIS
- B. R4 is the DIS for level 1 and level 2
- C. R5 is a DIS

D. R4 does not run level1 IS-IS

**Answer: A**

**QUESTION 1120**

Which two statements about the various types of DevOps tools are true? (Choose two)

- A. Puppet requires the installation of a master (server) and agents (clients) architecture for configuring systems.
- B. Salt cannot communicate with clients through general SSH, it uses minions client agents only.
- C. Puppet and Chef are written in Python, Python skills are a must to operate these two.
- D. Ansible does not require agent node installation and uses SSH for performing all tasks.
- E. Chef and Puppet are much more attuned to the needs of system administrators.

**Answer: AD**

**QUESTION 1121**

In a Cisco ACI environment, which option best describes "contracts"?

- A. a set of interaction rules between endpoint groups
- B. a Layer 3 forwarding domain
- C. to determine endpoint group membership status
- D. named groups of related endpoints

**Answer: A**

**QUESTION 1122**

In a typical three-node OpenStack deployment, which two components are part of the controller node? (Choose two)

- A. Neutron Layer 3 agent
- B. Neutron DHCP agent
- C. Identity service
- D. Neutron Layer 2 agent
- E. Neutron server plugin

**Answer: CE**

**QUESTION 1123**

Which option is the common primary use case for tools such as Puppet, Chef, Ansible, and Salt?

- A. network function visualization
- B. policy assurance
- C. Configuration management.
- D. network orchestration.

**Answer: C**

**QUESTION 1124**

Which two platforms provide hypervisor virtualization? (Choose two.)

- A. DevStack
- B. Docker
- C. KVM
- D. OpenStack
- E. Xen

**Answer:** CE

**QUESTION 1125**

Which two characteristics of an IoT network are true? (Choose two.)

- A. The transmission rate in an IoT network is consistent.
- B. IoT networks must be designed for low-powered devices.
- C. IoT networks use IS-IS for routing.
- D. IoT networks are 100% reliable
- E. IoT networks are bandwidth constrained

**Answer:** BE

**QUESTION 1126**

Which two options are benefits of moving the application development workload to the cloud? (Select Two)

- A. it provides you full control over the software packages and vendor used
- B. The application availability is not affected by the loss of a single virtual machine
- C. The workload can be moved or replicated easily.
- D. It provides a more secure environment
- E. High availability and redundancy is handled by the hypervisor.

**Answer:** BE

**QUESTION 1127**

Refer to the exhibit. If you apply this configuration to a device on your network, which class map cannot match traffic?

```
class-map match-any CM-EXAMPLE-1
 match dscp AF11
 match dscp AF21
class-map match-any CM-EXAMPLE-2
 match access-group 100
 match dscp EF
class-map match-all CM-EXAMPLE-3
 match dscp AF31
 match dscp AF32
class-map match-all CM-EXAMPLE-4
 match ip rtp 16384 16383
 match precedence 5
class-map match-any CM-EXAMPLE-5
 match dscp AF41 EF
```

- A. CM-EXAMPLE-3
- B. CM-EXAMPLE-1
- C. CM-EXAMPLE-4
- D. CM-EXAMPLE-5
- E. CM-EXAMPLE-2

**Answer:** A

#### QUESTION 1128

Refer to the exhibit. For which reason could the statistics for IP SLA operation 1 be unknown?

```
R1#sh ip sla configuration
IP SLAs Infrastructure Engine-III
Entry number: 1
Owner:
Tag:
Operation timeout (milliseconds): 2000
Type of operation to perform: icmp-echo
Target address/Source address: 10.1.2.2/0.0.0.0
Type Of Service parameter: 0x00
Request size (ARR data portion): 20
Verify data: No
Vrf Name:
Schedule:
 Operation frequency (seconds): 2 (not considered if randomly scheduled)
 Next Scheduled Start Time: Pending trigger
 Group Scheduled : FALSE
 Randomly Scheduled : FALSE
 Life (seconds): 3600
 Entry Ageout (seconds): never
 Recurring (Starting Everyday): FALSE
 Status of entry (SNMP RowStatus): notInService
Threshold (milliseconds): 2000
Distribution Statistics:
 Number of statistic hours kept: 2
 Number of statistic distribution buckets kept: 1
 Statistic distribution interval (milliseconds): 20
Enhanced History:
History Statistics:
 Number of history Lives kept: 0
 Number of history Buckets kept: 15
 History Filter Type: None

R1#sh ip sla statistics
IPSLAs Latest Operation Statistics

IPSLA operation id: 1
Number of successes: Unknown
Number of failures: Unknown
Operation time to live: 0
```



- A. The ICMP echoes were lost in transit
- B. Data verification has been disabled
- C. The Type of Service parameter is configured incorrectly.
- D. The Operation Frequency value is the same as the Operation Timeout value.
- E. The IP SLA schedule is missing.

**Answer: E**

**QUESTION 1129**

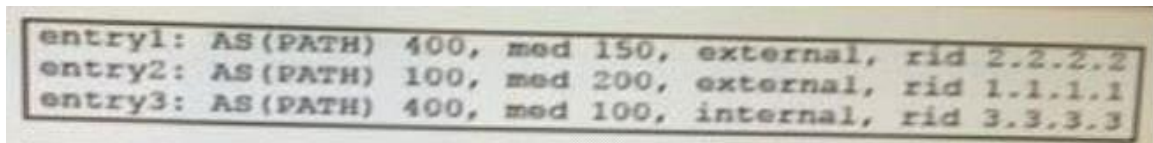
Which two statements about RIPng are true? (Choose two.)

- A. RIPng can support as many as 8 equal-cost routes.
- B. RIPng can support as many as 32 equal-cost routes.
- C. 16 is the maximum metric it can advertise.
- D. Both inbound and outbound route filtering can be implemented on a single interface.
- E. A route with a metric of 15 is advertised as unreachable.

**Answer: CD**

**QUESTION 1130**

Refer to the Exhibit. With BGP always-compare enabled, which BGP entry is installed in the RIB?



|         |          |      |     |      |           |     |         |
|---------|----------|------|-----|------|-----------|-----|---------|
| entry1: | AS(PATH) | 400, | med | 150, | external, | rid | 2.2.2.2 |
| entry2: | AS(PATH) | 100, | med | 200, | external, | rid | 1.1.1.1 |
| entry3: | AS(PATH) | 400, | med | 100, | internal, | rid | 3.3.3.3 |

- A. Entry 3 because it has the lowest MED.
- B. Entry 1 because it has the best MED of the external routes.
- C. Entry 1 because it was installed first (oldest\_ in the BGP table.
- D. Entry 2 because it has the lowest router ID.

**Answer: A**

**QUESTION 1131**

Refer to the Exhibit. Which three statements about the output are true? (Choose Three)



```
Switch#show ip mroute
IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected,
L - Local, P - Pruned, R - RP-bit set, F - Register flag,
T - SPT-bit set, J - Join SPT, M - MSDP created entry, E - Extranet,
X - Proxy Join Timer Running, A - Candidate for MSDP Advertisement,
U - URD, I - Received Source Specific Host Report,
Z - Multicast Tunnel, z - MDT-data group sender,
Y - Joined MDT-data group, y - Sending to MDT-data group,
V - RD & Vector, v - Vector
Outgoing interface flags: H - Hardware switched, A - Assert winner
Timers: Uptime/Expires
Interface state: Interface, Next-Hop or VCD, State/Mode

(*, 239.192.1.1), 00:01:43/stopped, RP 10.210.150.1, flags: SJC
Incoming interface: Null, RPF nbr 0.0.0.0
Outgoing interface list:
Vlan150, Forward/Sparse-Dense, 00:01:43/00:02:55

(10.210.168.132, 239.192.1.1), 00:00:25/00:02:38, flags: T
Incoming interface: Port-channell, RPF nbr 10.85.20.20
Outgoing interface list:
Vlan150, Forward/Sparse-Dense, 00:00:25/00:02:34

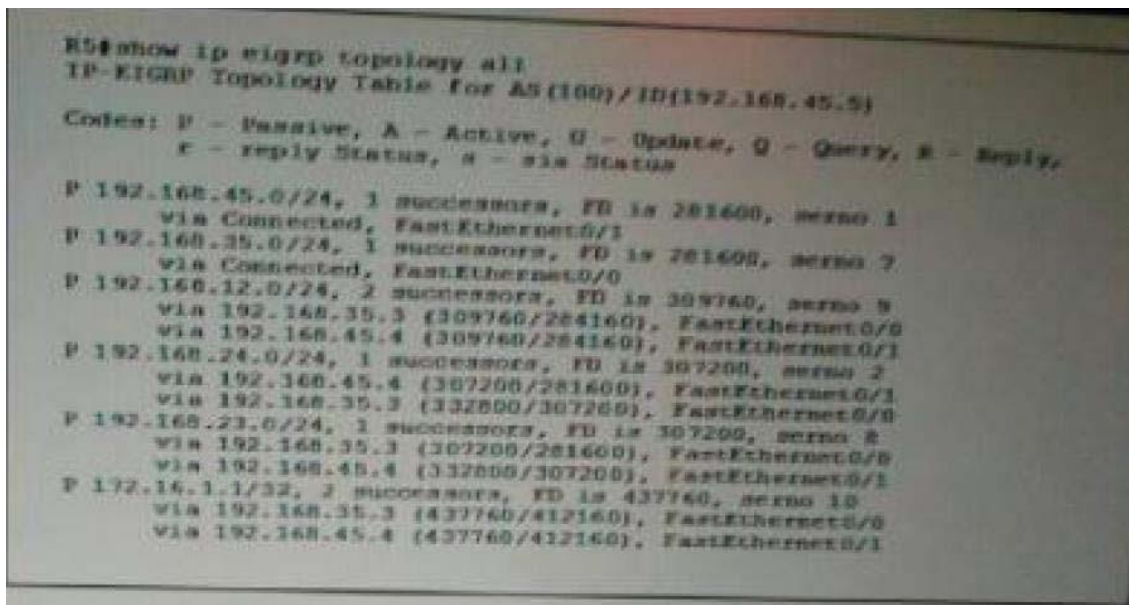
(*, 224.0.1.40), 00:01:57/00:02:53, RP 10.210.150.1, flags: SJCL
Incoming interface: Null, RPF nbr 0.0.0.0
Outgoing interface list:
Port-channell, Forward/Sparse-Dense, 00:01:09/00:03:18
Vlan150, Forward/Sparse-Dense, 00:01:39/00:02:55
```

- A. Group 224.0.1.40 is a reserved address, and it should not be used for multicast user data transfer.
- B. Group 239.192.1.1 is a reserved address, and it should not be used for multicast user data transfer.
- C. One or more multicast groups are operating in PIM dense mode.
- D. One or more of the multicast data streams will be forwarded out to neighbor 10.85.20.20.
- E. A multicast receiver has requested to join one or more of the multicast groups.
- F. This switch is currently receiving a multicast data stream that is being forwarded out VLAN 150.

**Answer:** AEF

#### QUESTION 1132

Refer to the exhibit. Which two statements about the 192.168.23.0/24 prefix are true? (Choose two.)



- A. Router 192.168.45.4 cannot act as a feasible successor.
- B. Router 192.168.35.3 is the only successor.
- C. Only router 192.168.45.4 is a feasible successor.
- D. Routers 192.168.35.3 and 192.168.45.4 are successors.
- E. Routers 192.168.35.3 and 192.168.45.4 are feasible successors.
- F. Only router 192.168.35.3 is a feasible successor.

**Answer: AB**

#### QUESTION 1133

Refer to the exhibit. When packets are transmitted from r1 to r2, where are they encrypted?



- A. on the E0/0 interface on R1
- B. on the outside interface
- C. in the forwarding engine
- D. in the tunnel
- E. within the crypto map
- F. on the E0/1 interface on R2

**Answer: A**

#### QUESTION 1134

Refer to the exhibit. When R2 attempted to copy a file the TFTP server, it received this error

message. When action can you take to correct the problem?

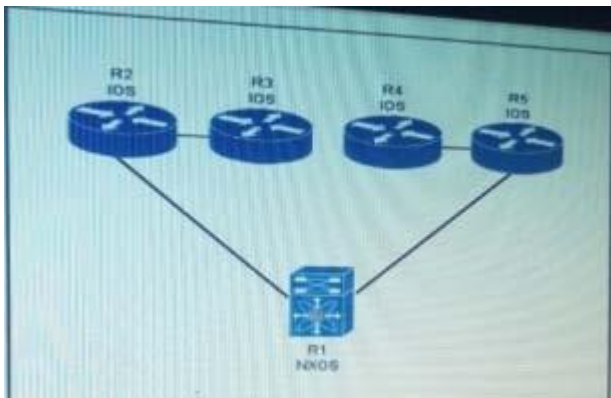


- A. configure the ip tftp source-interface Fa0/1 command on R2
- B. configure the ip tftp source-interface Fa0/1 command on R1
- C. configure the ip tftp source-interface Loopback0 command on R2
- D. configure the ip tftp source-interface Loopback0 command on R1
- E. Change the access-list configuration on R1 to access-list 1 permit 172.16.1.0 0.0.0.255.

**Answer: C**

#### QUESTION 1135

Refer to the exhibit. Which action can you take to prevent loops and suboptimal routing on this network?



- A. Configure the rfc2328 compatibility command under the Cisco IOS OSPF routing process only
- B. Configure the rfc2328 compatibility command under the Cisco IOS OSPF NX-OS routing process only
- C. Configure the ref1583 compatibility command under the Cisco NX-OS OSPF routing process only
- D. Configure the ref1583 compatibility command under the Cisco IOS OSPF routing process only
- E. Configure the rfc2328 compatibility command Cisco IOS and NX-OS OSPF routing processes
- F. Configure the rfc2328 compatibility command under the Cisco IOS and NX-OS OSPF routing processes

**Answer: C**

**QUESTION 1136**

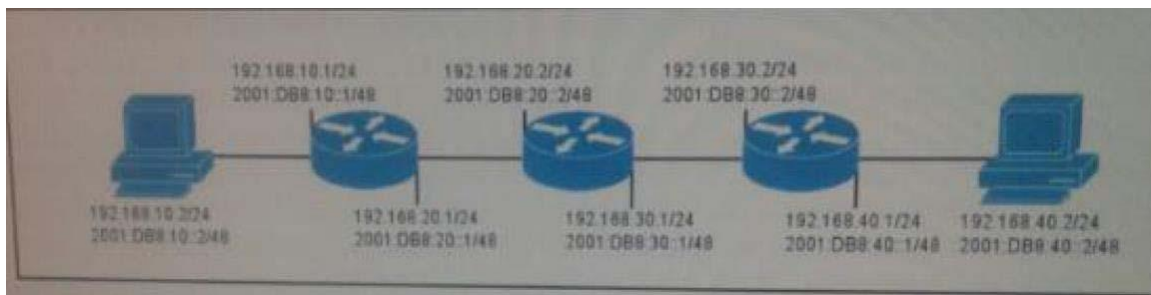
Which three message type are used for prefix delegation in DHCPv6?(Choose three)

- A. Solicit
- B. Renew
- C. Advertise
- D. DHCP Discover
- E. DHCP Ack
- F. DHCP Offer

**Answer:** ABC

**QUESTION 1137**

Refer to the exhibit. Which IPv6 migration method is in use on this network?

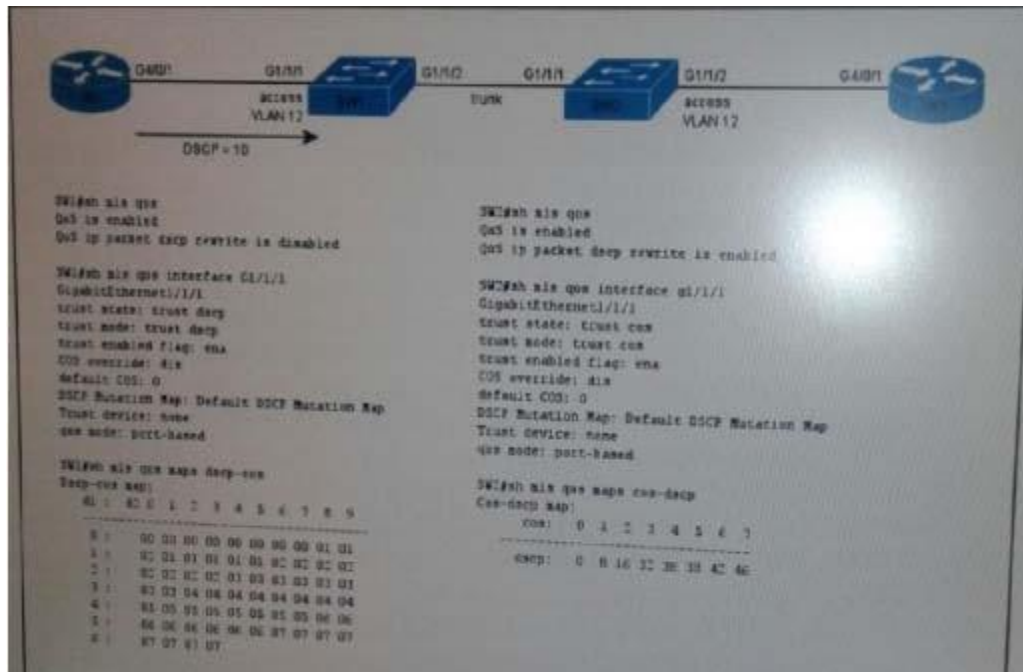


- A. 6to4 tunnel
- B. NAT-PT
- C. ISATAP tunnel
- D. dual stack

**Answer:** D

**QUESTION 1138**

Refer to the exhibit. What is the DSCP value that egresses SW2 toward R2?



- A. 0
- B. 2
- C. 8
- D. 10
- E. 16

**Answer: A**

#### QUESTION 1139

Which two OSPF network type require the use of a DR and BDR? (Choose two)

- A. non-broadcast networks
- B. point-to-point networks
- C. point-to-point non-broadcast networks
- D. broadcast networks
- E. point-to-multipoint networks

**Answer: AD**

#### QUESTION 1140

Which two statements about SSM are true? (Choose two)

- A. It is designed to support many-to-many applications within a PIM domain.
- B. It requires IGMPv3 for source filtering.
- C. It uses (\*, G) multicast routing entries to make forwarding decisions.
- D. It can work in conjunction with the ISM service.
- E. Its application and protocols use address 233.0.0.0 ?233.255.255.255.

**Answer: BD**



**QUESTION 1141**

Which command can you enter to configure a Cisco router running OSPF to propagate the static default route 0.0.0.0 0.0.0.0 172.31.15.1 within the OSPF process?

- A. default-information originate
- B. redistribute static subnets
- C. redistribute static metric 1 subnets
- D. redistribute static

**Answer: A**

**QUESTION 1142**

Refer to the exhibit. If this network is in the process of being migrated from EIGRP to OSPF, and all routers are now running both protocols, which action must you perform to complete the migration?



- A. Change the EIGRP administrative distance to 95
- B. Change the OSPF administrative distance to 95
- C. Change the OSPF administrative distance to 115
- D. Change the EIGRP administrative distance to 115

**Answer: D**

**QUESTION 1143**

Refer to the exhibit. What is the effect on the network when you apply these configuration to R1 and R2?



```
R1
interface FastEthernet0/0
 ip address 192.168.12.1 255.255.255.0
interface FastEthernet0/1
 ip address 192.168.21.1 255.255.255.0
router eigrp 100
 network 192.168.12.0
 network 192.168.21.0
 metric weights 0 2 0 1 0 0

R2
interface FastEthernet0/0
 ip address 192.168.12.2 255.255.255.0
interface FastEthernet0/1
 ip address 192.168.21.2 255.255.255.0
router eigrp 100
 network 192.168.12.0
 network 192.168.21.0
 metric weights 0 1 0 2 0 0
```

- A. Asymmetric routing occurs because the bandwidth and delay K value settings are mismatched.
- B. The interface bandwidth and delay settings adjust automatically to match the new metric settings.
- C. The neighbor adjacency between R1 and R2 temporarily resets and then reestablishes itself.
- D. R1 and R2 fail to form a neighbor adjacency.

**Answer:** AD

#### QUESTION 1144

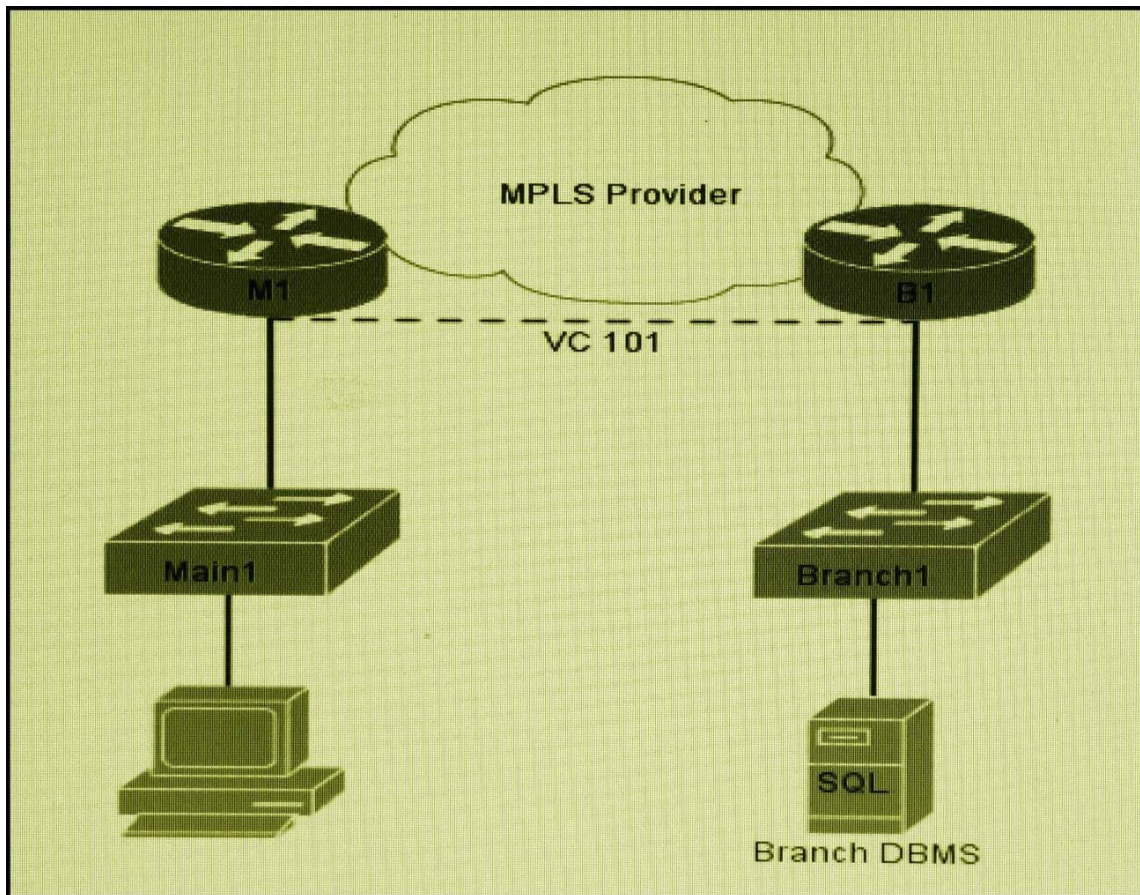
Which statement is true about IGMP?

- A. Multicast source send IGMP messages to their first-hop router, which then generates a PIM join message that is then sent to the RP.
- B. Multicast receivers send IGMP message to signal their interest traffic multicast groups.
- C. IGMP message are encapsulated in PIM register message and send to the RP.
- D. Multicast receivers send IGMP message to their first-hop router, which then forwards the IGMP message to the RP.

**Answer:** B

#### QUESTION 1145

Refer to the exhibit. The Main 1 and Branch 1 switches are connected directly over over an MPLS pseudowire, and both run UDLD. After router B1 reloads because of a power failure,the pseudowire. However the Branch 1 switch is unable to reach the Main 1 switch.



Which two actions can you take to restore connectivity and problem from recurring? (Choose two)

- A. Configure a backup pseudowire between the Main 1 and Branch 1 Switches.
- B. Issue the shutdown and no shutdown commands on the Branch 1 switch uplink to the B1 router only.
- C. Configure a backup GRE tunnel between the Main 1 and Branch 1 switches.
- D. Issue the shutdown and no shutdown commands on both the Branch 1 switch uplink to the B1 router and the Main 1 switch's uplink to the M1 router
- E. Enable errdisable recovery on both the Main 1 and Branch 1 switches.
- F. Enable UDLD recovery on both the Main 1 and Branch 1 switches.

**Answer:** AF

#### QUESTION 1146

How are the Cisco Express Forwarding table and the FIB related to each other?

- A. Cisco Express Forwarding use a FIB to make IP destination prefix-based switching decisions.
- B. The FIB is used to population the Cisco Express Forwarding table.
- C. There can be only FIB but multiple Cisco Express Forwarding tables on IOS devices.
- D. The Cisco Express Forwarding table allows route lookups to be forwarding to be route processor for processing before they are sent to the FIB.

**Answer:** A

**QUESTION 1147**

Refer to the exhibit. Which effect of this configuration is true?

```
R2
username cisco1 password cisco2
enable secret cisco3
aaa new-model
aaa authentication login default group tacacs+ local
aaa authentication enable default group tacacs+ none
tacacs-server host 10.1.1.100 key cisco5
line vty 0 4
 password cisco4
 transport input all

R2#sh ip route 10.1.1.100
1 Subnet not in table
```

- A. Users can enter user EXEC mode without a user name using password cisco4
- B. Users in user EXEC mode can enter privileged EXEC mode without a user name or password.
- C. Users can enter privileged EXEC mode using user name cisco1 and password cisco2
- D. Users in user EXEC mode can enter privileged EXEC mode without a user name using password cisco3

**Answer: B**

**QUESTION 1148**

Examine the DHCP configuration between R2 and R3 ,R2 is configured as the DHCP server and R3 as the client.

What is the reason R3 is not receiving the IP address via DHCP?

- A. On R2, the network statement in the DHCP pool configuration is incorrectly configured
- B. On R3 DHCP is not enabled on the interface that is connected to R2
- C. On R2 the interface that is connected to R3 is in shutdown condition
- D. On R3 the interface that is connectd to R2 is in shutdown condition

**Answer: A**

**QUESTION 1149**

Which two statements about AAA authentication are true? (Choose two)

- A. RADIUS authentication queries the router's local username database.
- B. TACASCS+ authentication uses an RSA server to authenticate users.
- C. Local user names are case-insensitive.
- D. Local authentication is maintained on the router.
- E. KRB5 authentication disables user access when an incorrect password is entered.

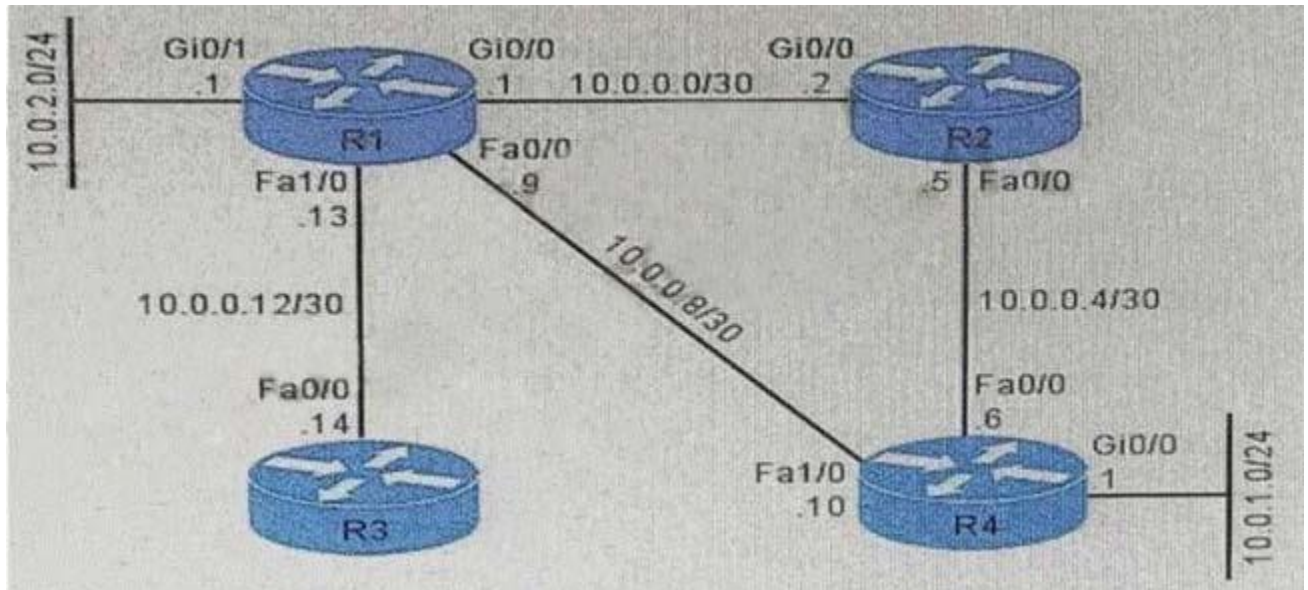
**Answer: DE**

**QUESTION 1150**

Refer to the exhibit. A packet from network 10.0.1.0/24 destined for network 10.0.2.0/24 arrives at



R1 on interface Gi0/0, but the router drops the packet instead of transmitting it out interface Gi0/1. Which feature that is configured on R1 can cause this problem?



- A. UDLC
- B. split horizon
- C. uRPF
- D. spanning tree

**Answer: C**

#### QUESTION 1151

Which two statements about DMVPN with NHRP are true? (Choose two)

- A. NHRP shortens the configuration of the hub router.
- B. NHRP dynamically provides information about the spoke routers to the hub.
- C. NHRP disables multicast
- D. The hub router uses NHRP to initiate the GRE tunnel with spokes.
- E. The spoke routers act as the NHRP servers.

**Answer: AB**

#### QUESTION 1152

Which two statements about IS-IS metrics are true? (Choose two)

- A. The default metric style is narrow
- B. The default metric for the IS-IS interface is 63
- C. The default metric style is wide
- D. The default metric for the IS-IS interface is 64
- E. The default metric for the IS-IS interface is 10

**Answer: AE**

**QUESTION 1153**

Which two pieces of information are returned by the show ipv6 mld snooping querier command? (Choose two)

- A. Learned group information
- B. IPv6 address information
- C. MLD snooping querier configuration
- D. incoming interface

**Answer:** BD

**QUESTION 1154**

Which three statements about microbursts are true? (Choose three)

- A. They can occur when chunks of data are sent in quick succession
- B. They occur only with UDP traffic
- C. They appear as input errors on an interface counter
- D. They appear as ignores and overruns on device buffers
- E. They can be monitored by IOS software
- F. They appear as misses and failures on device buffers

**Answer:** ADE

**QUESTION 1155**

Which two platforms provide hypervisor virtualization?(choose two)

- A. Xen
- B. Docker
- C. KVM
- D. OpenStack
- E. DevStack

**Answer:** AC

**QUESTION 1156**

In a typical three-node Open Stack deployment, which two components are part of the controller node? (Choose two)

- A. Neutron server plugin
- B. Neutron DHCP agent
- C. Neutron layer 2 agent
- D. Identity Service
- E. Neutron Layer 3 agent

**Answer:** AE

**QUESTION 1157**

What is the default time-out value of an ARP entry in Cisco IOS Software?

- A. 720 minutes
- B. 240 minutes
- C. 60 minutes
- D. 480 minutes
- E. 120 minutes

**Answer: B**

**QUESTION 1158**

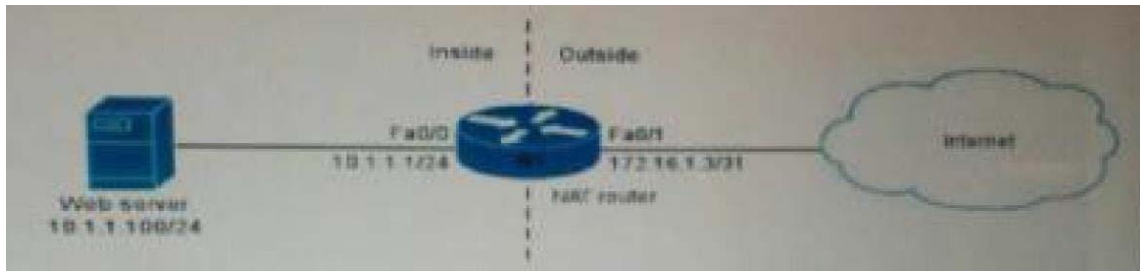
Which Cisco IOS XE component provides separation between the control plane and the data plane?

- A. Common Management Enabling Technology
- B. Free and Open Source Software
- C. POSIX
- D. Forwarding and Feature

**Answer: D**

**QUESTION 1159**

Refer to the exhibit. If the Web Server has been configured to listen only to TCP port 8080 for all HTTP requests, which command can you enter to how internet users to access the web server on HTTP port 80?



- A. ip nat inside source static tcp 10.1.1.100 80 10.1.1.100 8080
- B. ip nat outside source static tcp 10.1.1.100 80 10.1.1.100 8080
- C. ip nat outside source static tcp 10.1.1.100 8080 10.1.1.100 80
- D. ip nat inside source static tcp 10.1.1.100 8080 10.1.1.100 80

**Answer: D**

**QUESTION 1160**

Which three statements about Ansible are true? (Choose three.)

- A. Ansible by default manages remote machines over SSL.
- B. No ports other than the SSH port are required; there is no additional PKI infrastructure to maintain.
- C. Ansible requires remote agent software.
- D. Ansible by default manages remote machines over SSH.



- E. Ansible does not require specific SSH keys or dedicated users.
- F. Ansible requires server software running on a management machine.

**Answer:** BDE

**QUESTION 1161**

Which description of Infrastructure as a Service is true?

- A. a cloud service that delivers on-demand resources like networking and storage.
- B. a cloud service that delivers on-demand internet connection between sites
- C. a cloud service that delivers on-demand software services on a subscription
- D. a cloud service that delivers on-demand internet connection

**Answer:** A

**QUESTION 1162**

Which IPv6 first hop security feature blocks traffic sourced from ipv6 address that are outside the prefix gleaned from router advertised

- A. IPv6 source guard
- B. IPv6 DHCP guard
- C. IPv6 RA guard
- D. IPv6 prefix guard

**Answer:** C

**QUESTION 1163**

Which data modeling language is commonly used by NETCONF?

- A. HTML
- B. XML
- C. YANG
- D. REST

**Answer:** C

**QUESTION 1164**

Refer to the exhibit. While troubleshooting an issue with a blocked switch port, you find this error in the switch log. Which action should you take first to locate the problem?

**SPANTREE-2-LOOPGUARDBLOCK: No BPDUs were received on port FastEthernet0/1 in VLAN 10. Moved to loop-inconsistent state**

- A. Check the attached switch for a BPDU filter.
- B. Test the link for unidirectional failures.
- C. Execute the show interface command to check FastEthernet0/1.
- D. Check the attached switch for an interface configuration issue.

**Answer: A**

**QUESTION 1165**

Which two statements about route summarization are true? (Choose two.)

- A. EIGRP can summarize routes at the classful network boundary
- B. EIGRP and RIPv2 route summarize are configured with the ip summary-address command under the route.
- C. It can be disabled in RIP, RIPv2 and EIGRP
- D. It require a common set of high-order bits for all component routes
- E. RIPv2 can summarize-routes beyond the classful network boundary

**Answer: AD**

**QUESTION 1**

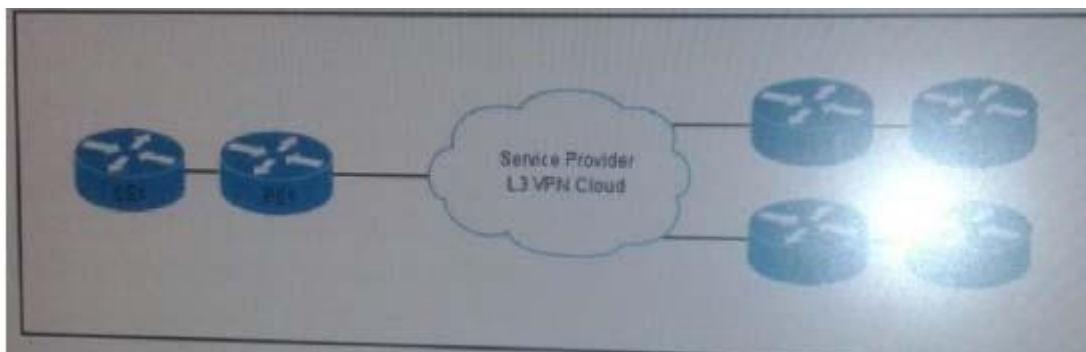
Which two statements about the various types of DevOps tools are true? (Choose two.)

- A. Chef and Puppet are much more attuned to the needs of system administrators.
- B. Puppet and Chef are written in Python. Python skills are a must to operate these two.
- C. Salt cannot communicate with clients through general SSH. it use minions client agents only.
- D. Puppet requires the installation of a master (server) and agents (clients) architecture for configuring systems.
- E. Ansible does not require agent node installation and users SSH for performing all tasks.

**Answer: AD**

**QUESTION 1167**

Refer to the exhibit. How can you configure this network so that customers can transparently extend their networks through the provider?



- A. Configure eBGP peering among the CE routers.
- B. Configure EIGRP OTP on the CE routers.
- C. Configure eBGP peering between the CE and PE routers.
- D. Configure OSPF peering between the CE and PE routers.

**Answer: B**

**QUESTION 1168**

Refer to the exhibit. If interface FastEthernet0/1 goes down, how does the router R5 responds?

```
R5#show ip eigrp topology
IP-EIGRP Topology Table for AS(100)/ID(192.168.45.0)
Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
 r - reply Status, s - via Status
P 192.168.45.0/24, 1 successors, FD is 281600, serno 1
 via Connected, FastEthernet0/1
P 192.168.35.0/24, 1 successors, FD is 281600, serno 7
 via Connected, FastEthernet0/0
P 192.168.12.0/24, 2 successors, FD is 309760, serno 9
 via 192.168.35.3 (309760/284160), FastEthernet0/0
 via 192.168.45.4 (309760/284160), FastEthernet0/1
P 192.168.24.0/24, 1 successors, FD is 307200, serno 2
 via 192.168.45.4 (307200/281600), FastEthernet0/1
 via 192.168.35.3 (332800/307200), FastEthernet0/0
P 192.168.23.0/24, 1 successors, FD is 307200, serno 8
 via 192.168.35.3 (307200/281600), FastEthernet0/0
 via 192.168.45.4 (332800/307200), FastEthernet0/1
P 172.16.1.1/32, 2 successors, FD is 437760, serno 10
 via 192.168.35.3 (437760/412160), FastEthernet0/0
 via 192.168.45.4 (437760/412160), FastEthernet0/1
```

- A. It sends query packets to neighbor 192.168.35.3 for destination 192.168.24.0/24.
- B. It sends update packets to neighbor 192.168.35.3 for destination 192.168.24.0/24.
- C. It is stuck in active for destination 192.168.24.0/24.
- D. It used interface F0/0 and neighbor 192.168.35.3 as the new path to destination 192.168.24.0/24.

**Answer: D**

**QUESTION 1169**

Which two statements about IS-IS authentication are true? (Choose two.)

- A. Level 2 LSPs transmit the password encrypted inside the IS-IS PDU.
- B. Area and domain authentication must be configured together.
- C. Passwords can be configured on a per-interface basis.
- D. If LSP authentication is in use, unauthorized devices can form neighbor adjacencies.
- E. Level 1 LSPs use the domain password.

**Answer: CD**

**QUESTION 1170**

Which interior gateway protocol is based on open standards, uses a shortest-path first algorithm, provides native protocols, and operates at the data link layer?

- A. IS-IS
- B. EIGRP
- C. BGP
- D. OSPF

**Answer: A**

**QUESTION 1171**

Which two options are potential impacts of microbursts? (Choose two.)

- A. invalid checksum
- B. tail drops
- C. packet loss
- D. unicast flooding
- E. asymmetric routing
- F. unnecessary broadcast traffic

**Answer:** BC

**QUESTION 1172**

Which mechanism does get vpn use to preserve ip header information?

- A. GRE
- B. MPLS
- C. IPsec transport mode
- D. IPsec tunnel mode

**Answer:** D

**QUESTION 1173**

What is the main difference between GETVPN and traditional IPsec encryption techniques?

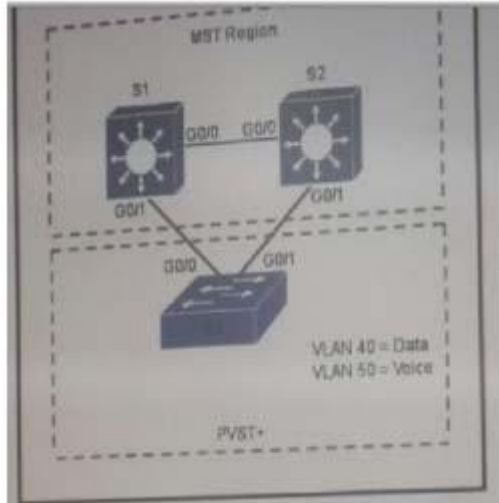
- A. Only GETVPN uses three types of encryption keys.
- B. Only GETVPN uses group SA.
- C. Only traditional IPsec uses ISAKMP for authentication.
- D. Only traditional IPsec uses PSKs.

**Answer:** B

**QUESTION 1174**

Refer to the exhibit. This network is undergoing a migration from PVST+ to MST. S1 is the MSTO root bridge and S2 is the MSTO secondary root.

Which statement about traffic from S3 is true?



- A. Interface G0/1 is blocked on S3 for VLAN40 and VLAN50 and load balancing fails until S3 is migrated to MST.
- B. Interface G0/0 is blocked on S3 for VLAN40 and VLAN50 unless it is configured for load balancing with PVST+.
- C. Interface G0/0 is blocked on S3 for VLAN40 and VLAN50 and load balancing fails until S3 is migrated to MST.
- D. VLAN traffic automatically load balances between G0/0 and G0/1 on S3 using PVST+.
- E. PVST+ inherits the load-balancing configuration from MST.

**Answer: A**

#### QUESTION 1175

Refer to the exhibit. Which statement about the effect of this configuration is true?

```
hostname R1
interface Loopback0
 ip address 192.168.1.1 255.255.255.0
interface FastEthernet0/0
 ip address 192.168.12.1 255.255.255.0
 duplex auto
 speed auto
router ospf 1
 log-adjacency-changes
 network 192.168.1.0 0.0.0.255 area 0
 network 192.168.12.0 0.0.0.255 area 0
 distribute-list 1 in
 access-list 1 deny 192.168.2.1

hostname R2
interface Loopback0
 ip address 192.168.2.1 255.255.255.0
interface FastEthernet0/0
 ip address 192.168.12.2 255.255.255.0
router ospf 1
 log-adjacency-changes
 network 192.168.2.0 0.0.0.255 area 0
 network 192.168.12.0 0.0.0.255 area 0
```

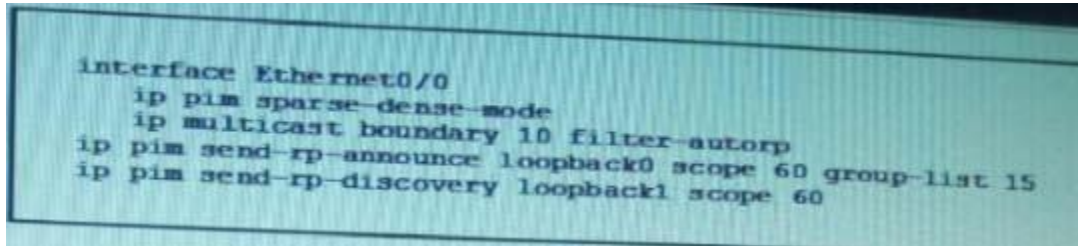
- A. The 192.168.2.1/24 network is summarized and advertised as 192.168.2.0/24.
- B. The 192.168.2.1/32 network appears in the route table on R1, but it is missing from its OSPF database.
- C. The 192.168.2.1/32 network is missing from OSPF database and the route table on R1

- D. The 192.168.2.1/32 network appears in the R1 OSPF database, but it is missing from its routing table.

**Answer:** D

**QUESTION 1176**

Refer to the exhibit. Which two effects of this configuration are true? (Choose 2)



```
interface Ethernet0/0
 ip pim sparse-dense-mode
 ip multicast boundary 10 filter-autorp
 ip pim send-rp-announce loopback0 scope 60 group-list 15
 ip pim send-rp-discovery loopback1 scope 60
```

- A. It creates an administratively scoped boundary for ACL 60.
- B. It sets the TTL for discovery messages to 60 hops.
- C. It prevent the device from falling back to dense mode.
- D. It sets announcement interval to 60 seconds.
- E. It configure the router as the rendezvous point.

**Answer:** BE

**QUESTION 1177**

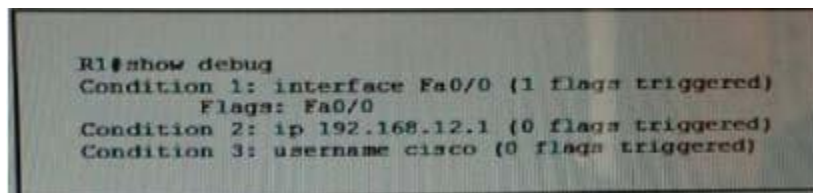
Which IS-IS process is responsible for flooding local link information to adjacent routers?

- A. decision
- B. receive
- C. forward
- D. update

**Answer:** D

**QUESTION 1178**

Refer to the exhibit. If R1 generated this response to the show debug command, which statement its debug output is true?



```
R1#show debug
Condition 1: interface Fa0/0 (1 flags triggered)
 Flags: Fa0/0
Condition 2: ip 192.168.12.1 (0 flags triggered)
Condition 3: username cisco (0 flags triggered)
```

- A. As soon as interface FaO/O becomes active, it generate debug output because one condition has been met.
- B. When debug output is generated, only the user cisco is permitted to view it.
- C. R1 generates debug output as soon as IP address 192.168.0.0 is applied to interface Fa0/0.



D. R1 generates debug output as soon as all three conditions are met.

**Answer:** A

**QUESTION 1179**

Which condition must be satisfied before a Cisco router running RIP can poison a route?

- A. The invalid timer must expire.
- B. The hold down timer must expire.
- C. The flush timer must expire.
- D. The flush timer must reach 240 seconds.
- E. The metric must equal 16.

**Answer:** A

**QUESTION 1180**

What is the default console authentication method on the Cisco routers?

- A. Local
- B. EAPoL
- C. open
- D. TACACS+
- E. no authentication
- F. RADIUS

**Answer:** E

**QUESTION 1181**

Under which two circumstances is IPsec transport mode appropriate? (Choose two)

- A. When both hosts are behind IPsec peers.
- B. When the hosts are transmitting router management traffic.
- C. When only one host is behind an IPsec peer.
- D. When only IP header encryption is needed.
- E. When IPsec peers are the source and the destination of the traffic.
- F. When only IP header authentication is needed.

**Answer:** BE

**QUESTION 1182**

Refer to the exhibit.

```
interface Ethernet 0/0
ip policy routemap PBR routemap PBR
match ip address 144
set ip nexthop 172.16.12.5
set ip nexthop recursive 192.168.3.2
```

Which statement describes how a router with this configuration treats packets if the devices at

172.16.12.5 and 192.168.3.2 are unreachable?

- A. It routes the packet using the default routing table.
- B. It routes the packet into a loop and drops it when the TTL reaches zero.
- C. It drops the packet immediately.
- D. It sends an ICMP source quench message.

**Answer: A**

**QUESTION 1183**

Which GDOI key is responsible for encrypting control plane traffic?

- A. the traffic encryption key.
- B. the preshared key
- C. the key encryption key
- D. the key-chain.

**Answer: C**

**QUESTION 1184**

Which characteristic of an IS-IS single topology is true?

- A. Its IPv4 and IPv6 interfaces must have a 1:1 correlation.
- B. It supports asymmetric IPv4 and IPv6 interface.
- C. It uses a separate SPF calculation than the IPv4 routing table.
- D. The metric-style wide command must be enabled.

**Answer: C**

**QUESTION 1185**

Refer to the exhibit. Which IPv6 migration is in use on this network?



- A. 6to4 tunnel
- B. NAT-PT
- C. ISATAP tunnel
- D. dual stack

**Answer: B**

**QUESTION 1186**

Which two statements about BIDIR-PIM are true? (Choose two)

- A. It uses implicit join messages to signal membership.

- B. It is designed to support one-to-many applications within a PIM domain.
- C. It uses (\*, G) multicast routing entries to make forwarding decisions.
- D. It uses a designated forwarder to maintain a loop-free SPT.
- E. Traffic can be passed downstream from the shared tree toward the RP.

**Answer:** CE

#### QUESTION 1187

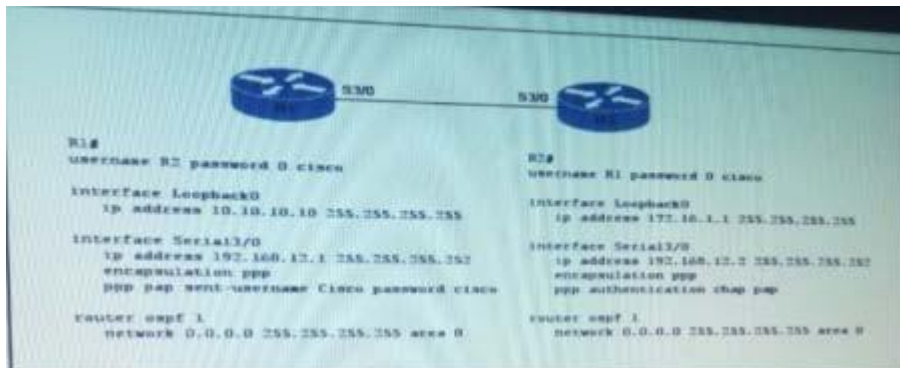
In an STP domain. Which two topology are true a nonroot switch, when it receives a configuration BPDU from the root bridge with the TC bit set? (Choose two)

- A. It does not recalculate the STP topology upon receiving change notification from the root switch.
- B. It sets the MAC table aging time to max\_age time.
- C. It recalculates the STP topology upon receiving topology change notification from the root switch.
- D. It sets the MAC table aging time to forward\_delay time.

**Answer:** AD

#### QUESTION 1188

Refer to the exhibit. When you apply these configurations to R1 and R2. Which two effects occur? (Choose two)



- A. The 172.16.1.1 network is reachable via OSPF on R1
- B. R1 authenticates using the username Cisco
- C. R1 and R2 successfully authenticates using CHAP
- D. Authentication between R1 and R2 fails.
- E. R1 and R2 authentications using PAP

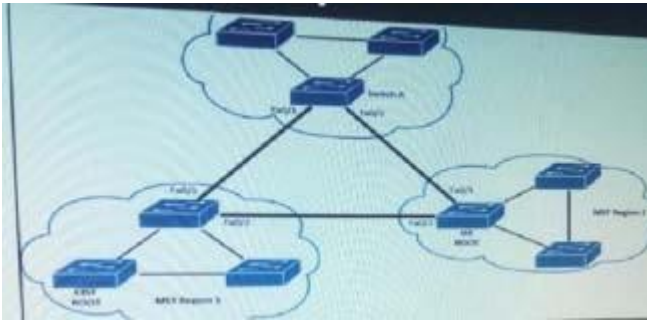
**Answer:** BD

#### QUESTION 1189

Refer to the exhibit. Switch A is connected to two MSTP domains for the first time. This error is observed on Switch A.

```
%SPANTREE-2-PVSTSIM_FAIL:
Blocking designated port Fa0/1:
Inconsistent superior PVST BPDU received on VLAN 10
```

How can this error be resolved?



- A. Map VLAN 10 into an appropriate instance on Switch A.
- B. Remove the 1ST root from MST Region 2.
- C. Configure PVST+ to allow MST Region 1 to be the root for VLAN 10.
- D. Map VLAN 10 to instance 0 in all MST regions.

**Answer: D**

#### QUESTION 1190

Which three mode are valid PfR monitoring modes of operation? (Choose three)

- A. passive mode (based on Cisco IP SLA probes)
- B. route monitor mode (based on BGP route changes)
- C. RMON mode (based on RMONv1 and RMONv2 data)
- D. active mode (based on Cisco IP SLA probes)
- E. passive mode (based on NetFlow data)
- F. fast mode (based on Cisco IP SLA probes)

**Answer: DEF**

#### QUESTION 1191

Which two statements about redistribution are true? (Choose two)

- A. When BGP traffic is redistributed into OSPF eBGP and iBGP routes are advertised.
- B. When EIGRP routes on a CE are redistributed through a PE into BGP, the Cost Community POI is set automatically.
- C. When EIGRP traffic is redistributed into BGP, a default metric is required.
- D. When BGP traffic is redistribute into OSPF the metric is set to 1 unless the metric is defined.
- E. iBGP routes automatically redistribute into IGP if the routes are in the routing table.
- F. When OSPF traffic is redistributed into BGP internal and external routes are redistributed.

**Answer: BD**

#### QUESTION 1192

Refer to the exhibit. With BGP always-compare-med enabled, which BGP entry is installed in the RIB?

Entry1: AS (PATH) 400 , med 150, external , rid 2.2.2.2  
Entry2: AS (PATH) 100 , med 200, external , rid 1.1.1.1  
Entry3: AS (PATH) 400 , med 100, external , rid 3.3.3.3

- A. Entry 1 because it was installed first (oldest) in the BGP table.
- B. Entry 1 because it has the best MED of the external routes.
- C. Entry 2 because it has the lowest router ID.
- D. Entry 3 because it has the lowest MED.

**Answer: D**

#### QUESTION 1193

Refer to the exhibit. Which statement about the R1 multicast network environment is true?

```
R1# show ip rpf 10.30.30.32
RPF information for ? (10.30.30.32)
RPF interface: Ethernet1/0
RPF neighbor: ? (10.1.1.32)
RPF route/mask: 10.30.30.32/32
RPF type: unicast (ospf 100)
Doing distance-preferred lookups across tables
RPF topology: ipv4 multicast base, originated from ipv4 unicast data

R1# show ip rpf 10.1.108.10
RPF information for ? (10.1.108.10)
RPF interface: Tunnel10
RPF neighbor: ? (10.1.15.1)
RPF route/mask: 0.0.0.0/0
RPF type: multicast (static)
Doing distance-preferred lookups across tables
RPF topology: ipv4 multicast base
```

- A. The default mroute uses Tunnel10 as the next hop for 10.1.108.10.
- B. RPF builds the topology using the unicast data for source address 10.1.108.10.
- C. A static mroute is configured to point multicast traffic for 10.30.30.30 through Ethernet1/0.
- D. RPF uses the OSPF 100 table for source address 10.1.108.10.

**Answer: C**

#### QUESTION 1194

Drag and drop each step in the performance-monitoring configuration process on the left to the correct order on the right.

Drag and drop each step in the performance-monitoring configuration process on the left into the correct order on the right.

|                                                                               |   |
|-------------------------------------------------------------------------------|---|
| Configure a policy with at least one performance-monitor type flow monitor.   | 1 |
| Configure a flow record.                                                      | 2 |
| Configure a class that describes the filtering criteria.                      | 3 |
| Associate a performance-monitor type policy with its corresponding interface. | 4 |
| Configure a flow monitor that includes the flow record and flow exporter.     | 5 |

**Answer:**

Drag and drop each step in the performance-monitoring configuration process on the left into the correct order on the right.

|                                                                               |                                                                               |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Configure a policy with at least one performance-monitor type flow monitor.   | Configure a flow record.                                                      |
| Configure a flow record.                                                      | Configure a flow monitor that includes the flow record and flow exporter.     |
| Configure a class that describes the filtering criteria.                      | Configure a class that describes the filtering criteria.                      |
| Associate a performance-monitor type policy with its corresponding interface. | Configure a policy with at least one performance-monitor type flow monitor.   |
| Configure a flow monitor that includes the flow record and flow exporter.     | Associate a performance-monitor type policy with its corresponding interface. |

#### QUESTION 1195

Drag and drop each IPv6 migration method from the left onto the matching description on the right



|                            |                                                                        |
|----------------------------|------------------------------------------------------------------------|
| 6to4 tunneling             | Configures parallel IPv4 and IPv6 network infrastructure and addresses |
| dual stack                 | Translates traffic between IPv4 and IPv6 addresses                     |
| IPv6 to IPv4 GRE tunneling | Uses any IPv6 unicast site address                                     |
| ISATAP tunneling           | uses IPv6 site address with in the 2002::/16 prefix                    |
| NAT-PT                     | Uses standard point-to-point encapsulation                             |

**Answer:**

|                            |                            |
|----------------------------|----------------------------|
| 6to4 tunneling             | dual stack                 |
| dual stack                 | NAT-PT                     |
| IPv6 to IPv4 GRE tunneling | ISATAP tunneling           |
| ISATAP tunneling           | 6to4 tunneling             |
| NAT-PT                     | IPv6 to IPv4 GRE tunneling |

#### QUESTION 1196

Drag and drop each step in the uRPF packet-forwarding process from the left into the connect order of operations on the right.

|                                                                               |       |
|-------------------------------------------------------------------------------|-------|
| Input ACLS are checked on the ingress interface                               | step1 |
| Output ACLs on the egress interface are checked                               | step2 |
| The devices check the Cisco Express forwarding table to forward the packet    | step3 |
| The devices performs a lookup in the FIB table to verify the best return path | step4 |
| The packet is forwarded out of the egress interface                           | step5 |

**Answer:**

|                                                                               |                                                                               |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| The packet is forwarded out of the egress interface                           | The devices check the Cisco Express forwarding table to forward the packet    |
| Output ACLs on the egress interface are checked                               | Output ACLs on the egress interface are checked                               |
| The devices check the Cisco Express forwarding table to forward the packet    | The packet is forwarded out of the egress interface                           |
| The devices performs a lookup in the FIB table to verify the best return path | Input ACLS are checked on the ingress interface                               |
| Input ACLS are checked on the ingress interface                               | The devices performs a lookup in the FIB table to verify the best return path |

**QUESTION 1197**

Drag and drop each multicast protocol from the left onto matching description on the right.

|                   |                                                                                                     |
|-------------------|-----------------------------------------------------------------------------------------------------|
| Bidirectional PIM | Allows the receiver to request multicast traffic directly from the source instead of through the RP |
| MBGP              | Delivers multicast traffic using a pull model with both shared and shortest-path trees              |
| MSDP              | Delivers multicast traffic using a push model                                                       |
| PIM-dense mode    | Supports many-to-many multicast flows within a single domain                                        |
| PIM-sparse mode   | Supports non-congruent unicast and multicast topologies                                             |
| SSM               | Use anycast RPs to share information about active source between domains                            |

**Answer:**

|                   |                   |
|-------------------|-------------------|
| Bidirectional PIM | SSM               |
| MBGP              | PIM-sparse mode   |
| MSDP              | PIM-dense mode    |
| PIM-dense mode    | Bidirectional PIM |
| PIM-sparse mode   | MBGP              |
| SSM               | MSDP              |

#### QUESTION 1198

Drag each OSPFv2 SA parameter on the left to its, corresponding description on the right.

|                          |                                                                              |
|--------------------------|------------------------------------------------------------------------------|
| Authentication Algorithm | An 8-bit unsigned value that controls which SA the receiver uses             |
| Authentication key       | The time at which the OSPF router will begin using the SA to encrypt packets |
| KeyID                    | The time at which the OSPF router will stop processing packets from the SA   |
| Key Start Accept         | A secret value used when encrypting packets                                  |
| Key Start Generate       | The time at which the OSPF router will stop using the SA to encrypt packets  |
| Key Stop Accept          | A value that controls the cryptographic mode                                 |
| Key Stop Generate        | The time at which the OSPF router will begin processing packets from the SA  |

**Answer:**

|                          |                          |
|--------------------------|--------------------------|
| Authentication Algorithm | KeyID                    |
| Authentication key       | Key Start Generate       |
| KeyID                    | Key Stop Accept          |
| Key Start Accept         | Authentication key       |
| Key Start Generate       | Key Stop Generate        |
| Key Stop Accept          | Authentication Algorithm |
| Key Stop Generate        | Key Start Accept         |

#### QUESTION 1199

Drag and drop each IP traffic plane-packet type from the left onto its description on the right.

|                          |                                                                                                                                  |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| control-plane packets    | packets that are generated by end users and forwarded to other end-station devices using destination IP address based forwarding |
| data-plane packets       | packets that are generated by ... by the router CPU                                                                              |
| exception IP packets     | packets that are used to create and operate the network                                                                          |
| management-plane packets | packets that have either a transit destination IP address or a receive destination IP address                                    |
| service-plane packets    | packets that may contain TTL expires or IP header options                                                                        |

**Answer:**

|                          |                          |
|--------------------------|--------------------------|
| control-plane packets    | data-plane packets       |
| data-plane packets       | management-plane packets |
| exception IP packets     | control-plane packets    |
| management-plane packets | service-plane packets    |
| service-plane packets    | exception IP packets     |

### QUESTION 1200

Drag and drop each NAT64 description from the left onto the corresponding NAT64 type on the right

|                                                                  |                 |
|------------------------------------------------------------------|-----------------|
| conserves IPv4 addresses                                         | Stateless NAT64 |
| creates a unique binding for every translation                   |                 |
| performs 1:1 translation                                         |                 |
| performs 1:N translation                                         |                 |
| provides end-to-end address transparency                         | Stateless NAT64 |
| requires IPv6 address assignments that can be translated to IPv4 |                 |
| supports all modes of IPv6 address assignment                    |                 |
| wastes IPv4 addresses                                            |                 |

**Answer:**

|                                                                  |                                                                  |
|------------------------------------------------------------------|------------------------------------------------------------------|
| conserves IPv4 addresses                                         | Stateless NAT64                                                  |
| creates a unique binding for every translation                   | performs 1:1 translation                                         |
| performs 1:1 translation                                         | requires IPv6 address assignments that can be translated to IPv4 |
| performs 1:N translation                                         | provides end-to-end address transparency                         |
|                                                                  | wastes IPv4 addresses                                            |
| provides end-to-end address transparency                         | Stateless NAT64                                                  |
| requires IPv6 address assignments that can be translated to IPv4 | conserves IPv4 addresses                                         |
| supports all modes of IPv6 address assignment                    | creates a unique binding for every translation                   |
| wastes IPv4 addresses                                            | performs 1:N translation                                         |
|                                                                  | supports all modes of IPv6 address assignment                    |

#### QUESTION 1201

Refer to the exhibit. The router sets local-preference to which option when it receives a BGP route with a community string 1000:130 from a neighbor in the LocalSite peer-group?



```
router bgp 65500
 neighbor LocalSite peer-group
 neighbor LocalSite ebgp-multihop 2
 neighbor LocalSite update - source Loopback0
 neighbor LocalSite next-hop-self
 neighbor LocalSite route-map CheckCommunity in
 neighbor LocalSite route-map CPodPeer out
!
route-map CheckCouuuunity permit 8
 match community 8
 set local-preference 80
!
route-map CheckCouuuunity permit 10
 match community 1
 set local-preference 110
!
route-map CheckCouuuunity permit 30
!
ip community-list 1 permit 1000:100
ip community-list 3 permit 1000:130
ip community-list 8 permit 1000:80
```

- A. 110
- B. no setting
- C. the default value
- D. 80

**Answer: C**

#### QUESTION 1202

Which two statements about 6to4 tunnels are true? (Choose two.)

- A. They encapsulate IPv6 packets, which allows the packets to travel over IPv4 infrastructure.
- B. They support point-to-multipoint traffic.
- C. They support OSPF and EIGRP traffic.
- D. They support point-to-point traffic.
- E. They allow IPv4 packets to travel over IPv6 infrastructure without modification.
- F. They generate an IPv6 prefix using a common IPv4 address.

**Answer: AD**

#### QUESTION 1203

Which three statements about AToM are true? (Choose three.)

- A. It supports interworking for Frame Relay, PPP, and Ethernet, but not ATM.
- B. The attachment circuit is configured with the xconnect command.
- C. It requires MPLS between PE routers.
- D. The PE routers must share the same VC identifier.

- E. IP CEF should be disabled on the PE routers.
- F. It requires Layer 3 routing between the PE and CE router.

**Answer:** BCD

**QUESTION 1204**

Which two statements about Cisco Express Forwarding are true? (Choose two)

- A. The FIB table and the adjacency table reside on the line cards when distributed Cisco Express Forwarding is enabled.
- B. Layer 2 next-hop address information is maintained in the adjacency table.
- C. The FIB table and the adjacency table reside on the line cards when Cisco Express Forwarding is enabled.
- D. Layer 2 next-hop address information is maintained in the FIB table.
- E. The FIB table resides on the route processor and the adjacency table resides on the line cards when Cisco Express Forwarding is enabled.

**Answer:** AB